

# ***STIC Search Report***

## ***Biotech-Chem Library***

**STIC Database Tracking Number: 125227**

**TO: Shahnam J Sharareh**  
**Location: 4c25 / 4b18**  
**Tuesday, June 22, 2004**  
**Art Unit: 1617**  
**Phone: 272-0630**  
**Serial Number: 09 / 904516**

**From: Jan Delaval**  
**Location: Biotech-Chem Library**  
**Rem 1A51**  
**Phone: 272-2504**

**[jan.delaval@uspto.gov](mailto:jan.delaval@uspto.gov)**

### **Search Notes**

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: \_\_\_\_\_ Examiner #: \_\_\_\_\_ Date: \_\_\_\_\_  
 Att Unit: \_\_\_\_\_ Phone Number 30 \_\_\_\_\_ Serial Number: \_\_\_\_\_  
 Mail Box and Bldg Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

## STAFF USE ONLY

	Type of Search	Vendors and tools where applicable
Searcher: <u>am</u>	NA Sequence (#) _____	STN <input checked="" type="checkbox"/>
Searcher Phone #: <u>22504</u>	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <input checked="" type="checkbox"/>	Questel/Orbit _____
Date Searcher Picked Up: <u>6/22</u>	Bibliographic _____	Dr Link _____
Date Completed: <u>6/22</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>25</u>	Patent Family _____	WWW/Internet _____
Online Fee: <u>+55</u>	Other _____	Other (specify) _____

125227



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## Scientific and Technical Information Center

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## Request a Prior Art Search

Attention: Jan Delaney

Search requests relating to **published applications, patent families, and litigation** may be submitted by filling out this form and clicking on "Send."

For all other search requests, fill out the form, print, and submit the printout with any attachments to the STIC facility serving your Technology Center.

## Tech Center:

- ☒ TC 1600   ☐ TC 1700   ☐ TC 2100   ☐ TC 2600   ☐ TC 2800  
☐ TC 3600   ☐ TC 3700   ☐ Design2900   ☐ Other

## Enter your Contact Information below:

Name: shahnam sharareh

Employee Number: 76656

Phone: 20630

Art Unit or Office: 1617

Building &amp; Room Number: 4C25

Mailbox 4B18

Enter the case serial number (Required): 09904516

If not related to a patent application, please enter NA here.

Class / Subclass(es) 424/70+

Earliest Priority Filing Date: 2000

## Format preferred for results:

☒ Paper   ☐ Diskette   ☐ E-mail

## Provide detailed information on your search topic:

- In your own words, describe in detail the concepts or subjects you want us to search.
- Include synonyms, keywords, and acronyms. Define terms that have special meanings.
- \*For Chemical Structure Searches Only\*  
Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers
- \*For Sequence Searches Only\*  
Include all pertinent information (parent, child, divisional, or issued patent numbers) along with

125227

the appropriate serial number.

- \*For Foreign Patent Family Searches Only\*  
Include the country name and patent number.
- Provide examples or give us relevant citations, authors, etc., if known.
- FAX or send the **abstract, pertinent claims** (not all of the claims), **drawings, or chemical structures** to your EIC or branch library.

**Enter your Search Topic Information below:**

please search for the compositions comprising the following polymer in Example 1 of the specification

The polymer:

Cl8H37-O-CONHR4NHCO-O- (CH2)2 -N+ (CH3) (CH3) - (CH2)2 -O-  
CONHR2NHCO-O (PEO) O-CONHR2NHCO-O- (CH2)2 -N+ (CH3) (CH3) -  
(CH2)2-O-CONHR4NHCO-OC18H37,

with:

counterion: CHaSO4-

R4 = methylenedicyclohexyl

is synthesized from the following reactants:

Cl8H17OH .....2 mol  
Methylenedicyclohexyl diisocyanate .....4 mol  
Polyethylene glycol.....1 mol  
N-methylethanolamine .....2 mol  
Quaternizing agent (CH3)2SO4..... 2 mol

please note that the generic formula is directed to a water-dispersible amphiphilic cationic polyurethane of formula (I) in claim 18 which is recited as follows:

Claim 18. (Currently Amended) A cosmetic composition comprising water-dispersible amphiphilic cationic associative polyurethanes of formula

**Special Instructions and Other Comments:**

(For fastest service, let us know the best times to contact you, in case the searcher needs further clarification on your search.)

ATTENTION: JAN DELAVEL.

please do not search the generic claim 18. I just submitted it for you to get an idea about the breath of the claim. the species elected is as described in example 1. any composition that contains such a

Press ALT + F, then P to print this screen for your own information.

SEND

RESET

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Last Modified: 04/06/2004 12:14:41

=> fil reg

FILE 'REGISTRY' ENTERED AT 17:55:52 ON 22 JUN 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2  
DICTIONARY FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que l40

L12 4388 SEA FILE=REGISTRY ABB=ON PLU=ON (13622-90-7/CRN OR 17901-48-3  
/CRN OR 18127-48-5/CRN OR 18937-00-3/CRN OR 28605-81-4/CRN OR  
3078-53-3/CRN OR 5124-30-1/CRN OR 63371-77-7/CRN)  
L13 890 SEA FILE=REGISTRY ABB=ON PLU=ON L12 AND C2H4O  
L14 36 SEA FILE=REGISTRY ABB=ON PLU=ON L13 AND C5H13NO2  
L15 26 SEA FILE=REGISTRY ABB=ON PLU=ON L14 NOT 46.150.18/RID  
L16 22 SEA FILE=REGISTRY ABB=ON PLU=ON L15 NOT SI/ELS  
L17 17 SEA FILE=REGISTRY ABB=ON PLU=ON L16 NOT C3H6O  
L18 1 SEA FILE=REGISTRY ABB=ON PLU=ON L17 AND 3/NC  
L19 14 SEA FILE=REGISTRY ABB=ON PLU=ON L13 AND C4H11NO2  
L20 1 SEA FILE=REGISTRY ABB=ON PLU=ON L19 AND 3/NC  
L21 3 SEA FILE=REGISTRY ABB=ON PLU=ON L13 AND (C18H38O OR C18H37CL  
OR C18H37BR OR C18H37I OR C18H37F)  
L22 2 SEA FILE=REGISTRY ABB=ON PLU=ON L21 NOT C6H14O3  
L23 4 SEA FILE=REGISTRY ABB=ON PLU=ON (L18 OR L20 OR L22)  
L24 STR

G1—CH2—CH2—N  
4 1 2 3

VAR G1=O/X

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L26 909 SEA FILE=REGISTRY ABB=ON PLU=ON L12 AND C3H6O  
L27 1431 SEA FILE=REGISTRY ABB=ON PLU=ON (L13 OR L26)  
L29 270 SEA FILE=REGISTRY SUB=L27 SSS FUL L24  
L32 11 SEA FILE=REGISTRY ABB=ON PLU=ON (105607-05-4/BI OR 112708-49-  
3/BI OR 213915-66-3/BI OR 389885-98-7/BI OR 435327-15-4/BI OR  
53488-86-1/BI OR 68002-49-3/BI OR 73334-13-1/BI OR 80438-09-1/B  
I OR 86189-43-7/BI OR 93952-59-1/BI)  
L33 1 SEA FILE=REGISTRY ABB=ON PLU=ON L29 AND (C18H38O OR C18H37CL

L36 OR C18H37BR OR C18H37I OR C18H37F)  
STR

Ak-G1  
1 2

VAR G1=O/X  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L38 5 SEA FILE=REGISTRY SUB=L29 CSS FUL L36  
L39 1 SEA FILE=REGISTRY ABB=ON PLU=ON L38 AND 4/NC  
L40 13 SEA FILE=REGISTRY ABB=ON PLU=ON (L23 OR L32 OR L33 OR L39)

=> d l40 ide can tot

L40 ANSWER 1 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 435327-16-5 REGISTRY  
CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -  
hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-  
isocyanatocyclohexane], compd. with 1-bromooctadecane (9CI) (CA INDEX  
NAME)  
MF C18 H37 Br . x (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)n H2 O)x  
PCT Polyether, Polyether, Polyurethane, Polyurethane formed  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES  
(Uses)

CM 1

CRN 112-89-0  
CMF C18 H37 Br

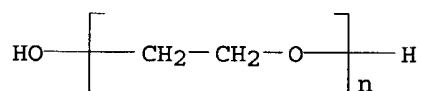
Me-(CH<sub>2</sub>)<sub>17</sub>-Br

CM 2

CRN 435327-15-4  
CMF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)n H2 O)x  
CCI PMS

CM 3

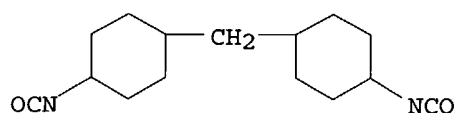
CRN 25322-68-3  
CMF (C2 H4 O)n H2 O  
CCI PMS



CM 4

CRN 5124-30-1

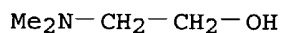
CMF C15 H22 N2 O2



CM 5

CRN 108-01-0

CMF C4 H11 N O



2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 137:24128

REFERENCE 2: 137:24121

L40 ANSWER 2 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 435327-15-4 REGISTRY

CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

MF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)<sub>n</sub> H2 O)<sub>x</sub>

CI PMS, COM

PCT Polyether, Polyether, Polyurethane, Polyurethane formed

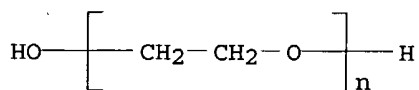
SR CA

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

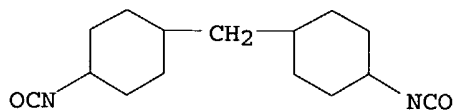
CCI PMS



CM 2

CRN 5124-30-1

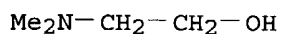
CMF C15 H22 N2 O2



CM 3

CRN 108-01-0

CMF C4 H11 N O



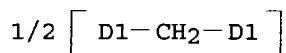
L40 ANSWER 3 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 389885-98-7 REGISTRY  
 CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[isocyanatocyclohexane], block (9CI) (CA INDEX NAME)  
 MF (C15 H22 N2 O2 . C5 H13 N O2 . (C2 H4 O)n H2 O)x  
 CI PMS  
 PCT Polyamide, Polyamide formed, Polyether, Polyether  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Patent  
 RLD.P Roles for non-specific derivatives from patents: PREP (Preparation);  
 USES (Uses)

CM 1

CRN 28605-81-4

CMF C15 H22 N2 O2

CCI IDS



D1-NCO

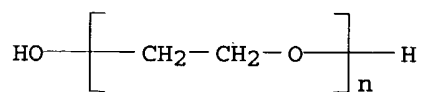
CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS

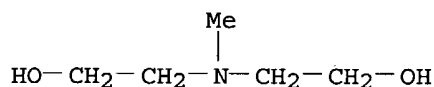




CM 3

CRN 105-59-9

CMF C5 H13 N O2



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:118886

L40 ANSWER 4 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 340735-59-3 REGISTRY

CN 1-Octadecanol, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1-octadecanol (9CI)

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 1-octadecanol (9CI)

MF (C18 H38 O . C15 H22 N2 O2 . (C2 H4 O)n H2 O)x

CI PMS

PCT Polyether, Polyether, Polyurethane, Polyurethane formed

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

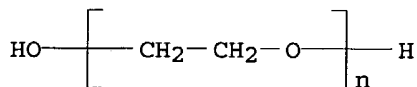
RL.P Roles from patents: BIOL (Biological study); USES (Uses)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

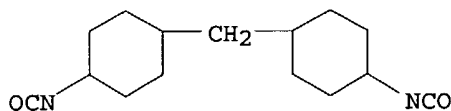
CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 3

CRN 112-92-5

CMF C18 H38 O

HO-(CH<sub>2</sub>)<sub>17</sub>-Me

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:371587

L40 ANSWER 5 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 213915-66-3 REGISTRY

CN Ethanol, 2-amino-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with 2-aminoethanol and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 2-aminoethanol and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI)

OTHER NAMES:

CN Ethanolamine-4,4'-methylenebis(cyclohexyl isocyanate)-polypropylene glycol copolymer

MF (C<sub>15</sub> H<sub>22</sub> N<sub>2</sub> O<sub>2</sub>) . (C<sub>3</sub> H<sub>6</sub> O)<sub>n</sub> H<sub>2</sub> O . C<sub>2</sub> H<sub>7</sub> N O)x

CI PMS

PCT Polyether, Polyurea, Polyurea formed, Polyurethane, Polyurethane formed

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

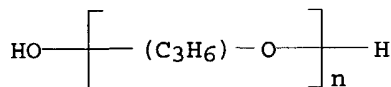
RL.P Roles from patents: PREP (Preparation); PRP (Properties); USES (Uses)

CM 1

CRN 25322-69-4

CMF (C<sub>3</sub> H<sub>6</sub> O)<sub>n</sub> H<sub>2</sub> O

CCI IDS, PMS

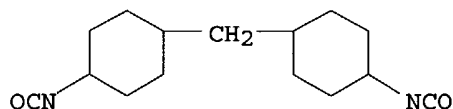


CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2

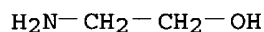
I allowed for  
PPG as well  
as PEG-



CM 3

CRN 141-43-5

CMF C2 H7 N O



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 129:277262

L40 ANSWER 6 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 112708-49-3 REGISTRY

CN Ethanol, 2,2'-(methylimino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane], block (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-(methylimino)bis[ethanol], block (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 1,1'-methylenebis[isocyanatocyclohexane] and 2,2'-(methylimino)bis[ethanol], block (9CI)

MF (C15 H22 N2 O2 . C5 H13 N O2 . (C3 H6 O)n H2 O)x

CI PMS, COM

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

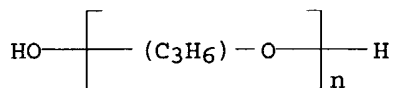
SR CA

CM 1

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

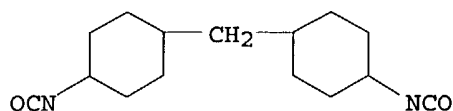
CCI IDS, PMS



CM 2

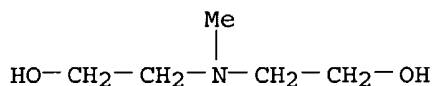
CRN 5124-30-1

CMF C15 H22 N2 O2



CM 3

CRN 105-59-9  
 CMF C5 H13 N O2



L40 ANSWER 7 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 105607-05-4 REGISTRY

CN Ethanol, 2,2',2''-nitrilotris-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2',2''-nitrilotris[ethanol] (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2',2''-nitrilotris[ethanol] (9CI)

OTHER NAMES:

CN Hydrogenated MDI-polypropylene glycol-triethanolamine copolymer

MF (C15 H22 N2 O2 . C6 H15 N O3 . (C3 H6 O)n H2 O)x

CI PMS

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

SR CA

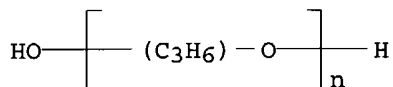
LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RL.P Roles from patents: USES (Uses)

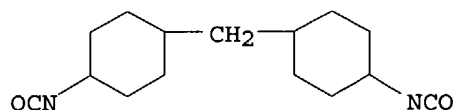
CM 1

CRN 25322-69-4  
 CMF (C3 H6 O)n H2 O  
 CCI IDS, PMS



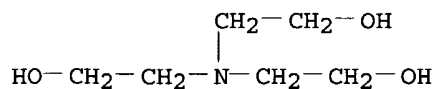
CM 2

CRN 5124-30-1  
 CMF C15 H22 N2 O2



CM 3

CRN 102-71-6  
CMF C6 H15 N O3



1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 105:228134

L40 ANSWER 8 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 93952-59-1 REGISTRY

CN Ethanol, 2,2'-iminobis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-iminobis[ethanol] (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 2,2'-iminobis[ethanol] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI)

MF (C15 H22 N2 O2 . C4 H11 N O2 . (C3 H6 O)n H2 O)x

CI PMS

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

LC STN Files: CHEMLIST

Other Sources: NDSL\*\*, TSCA\*\*

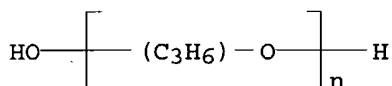
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 25322-69-4

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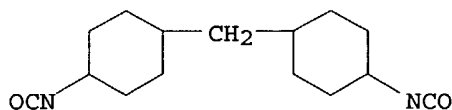
CCI IDS, PMS



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CRN 5124-30-1

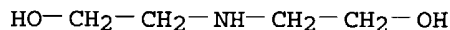
CMF C15 H22 N2 O2



CM 3

CRN 111-42-2

CMF C4 H11 N O2



L40 ANSWER 9 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 86189-43-7 REGISTRY

CN Ethanaminium, 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethyl-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethylethanaminium (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethylethanaminium and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI)

MF (C15 H22 N2 O2 . C6 H16 N O2 . (C3 H6 O)n H2 O)x

CI PMS

PCT Polyether, Polyionene, Polyurethane, Polyurethane formed

LC STN Files: CA, CAPLUS

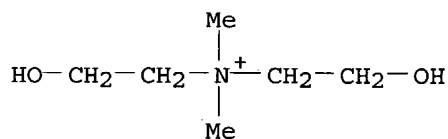
DT.CA CAplus document type: Patent

RL.P Roles from patents: USES (Uses)

CM 1

CRN 44798-79-0

CMF C6 H16 N O2

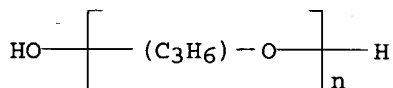


CM 2

CRN 25322-69-4

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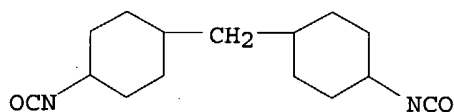
CCI IDS, PMS



CM 3

CRN 5124-30-1

CMF C15 H22 N2 O2



1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 99:24226

L40 ANSWER 10 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 80438-09-1 REGISTRY

CN Ethanol, 2,2'-iminobis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-iminobis[ethanol] (9CI)

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 2,2'-iminobis[ethanol] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI)

MF (C15 H22 N2 O2 . C4 H11 N O2 . (C2 H4 O)n H2 O)x

CI PMS

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

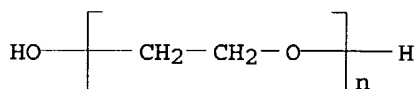
RL.P Roles from patents: USES (Uses)

CM 1

CRN 25322-68-3

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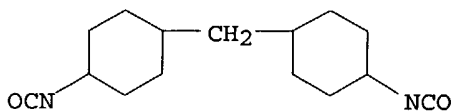
CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 3

CRN 111-42-2

CMF C4 H11 N O2



1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 96:36973

L40 ANSWER 11 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 73334-13-1 REGISTRY

CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-(methylinino)bis[ethanol] (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 1,1'-methylenebis[isocyanatocyclohexane] and 2,2'-(methylinino)bis[ethanol] (9CI)

MF (C15 H22 N2 O2 . C5 H13 N O2 . (C3 H6 O)n H2 O)x

CI PMS, COM

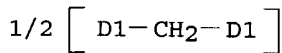
PCT Polyamide, Polyamide formed, Polyether, Polyother

CM 1

CRN 28605-81-4

CMF C15 H22 N2 O2

CCI IDS



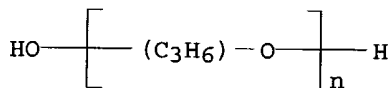
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CM 2

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

CCI IDS, PMS

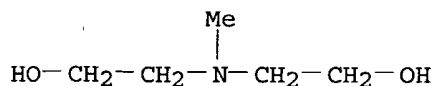


CM 3

CRN 105-59-9

CMF C5 H13 N O2





L40 ANSWER 12 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 68002-49-3 REGISTRY \*

\* Use of this CAS Registry Number alone as a search term in other STN files may result in incomplete search results. For additional information, enter HELP RN\* at an online arrow prompt (=>).

CN Ethanol, 2,2'-(methylimino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane], isocyanate-terminated (CA INDEX NAME)

MF (C15 H22 N2 O2 . C5 H13 N O2 . (C3 H6 O)n H2 O)x

AF Unspecified

CI PMS, MAN, GRS

PCT Manual registration

LC STN Files: CHEMLIST

Other Sources: NDSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

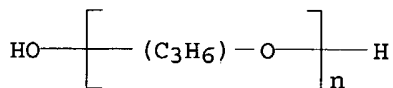
THE COMPLETE SUBSTANCE MAY NOT BE REPRESENTED BY THESE COMPONENTS. CHECK THE CN OR IN FIELD FOR THE COMPLETE SUBSTANCE DESCRIPTION.

CM 1

CRN 25322-69-4

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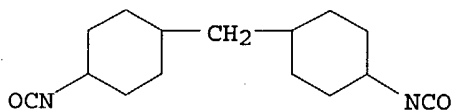
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CRN 5124-30-1

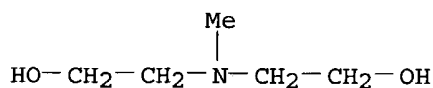
CMF C15 H22 N2 O2



CM 3

CRN 105-59-9

CMF C5 H13 N O2



L40 ANSWER 13 OF 13 REGISTRY COPYRIGHT 2004 ACS on STN

RN 53488-86-1 REGISTRY

CN Ethanol, 2,2'-(methylimino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-(methylimino)bis[ethanol] (9CI)

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-(methylimino)bis[ethanol] (9CI)

MF (C15 H22 N2 O2 . C5 H13 N O2 . (C3 H6 O)n H2 O)x

CI PMS

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

LC STN Files: CA, CAPLUS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, USPATFULL

Other Sources: NDSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Patent

RL.P Roles from patents: USES (Uses)

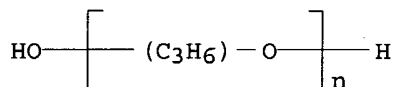
RLD.P Roles for non-specific derivatives from patents: USES (Uses)

CM 1

CRN 25322-69-4

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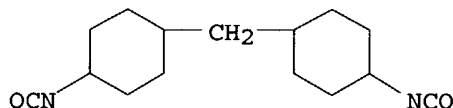
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CM 2

CRN 5124-30-1

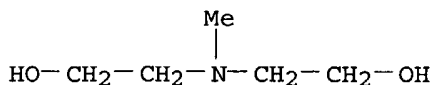
CMF C15 H22 N2 O2



CM 3

CRN 105-59-9

CMF C5 H13 N O2



2 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

## 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:151391

REFERENCE 2: 89:111442

=&gt; d his

(FILE 'HOME' ENTERED AT 17:07:12 ON 22 JUN 2004)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 17:07:25 ON 22 JUN 2004

L1 1 S US20030124079/PN OR FR2000-9609/AP,PRN  
SEL RN

FILE 'REGISTRY' ENTERED AT 17:07:52 ON 22 JUN 2004

L2 7 S E1-E7  
E C15H22N2O2/MF  
L3 138 S E3 AND 46.150.1/RID  
L4 49 S L3 NOT 46.150.18/RID  
L5 32 S L4 AND 2/NR  
L6 4 S L5 AND DIISOCYAN?  
L7 28 S L5 NOT L6  
L8 3 S L7 AND ISOCYAN?  
L9 17 S L4 NOT L5  
L10 1 S L9 AND IDS/CI  
L11 8 S L6,L8,L10  
SEL RN  
L12 4388 S E1-E8/CRN  
L13 890 S L12 AND C2H4O  
L14 36 S L13 AND C5H13NO2  
L15 26 S L14 NOT 46.150.18/RID  
L16 22 S L15 NOT SI/ELS  
L17 17 S L16 NOT C3H6O  
L18 1 S L17 AND 3/NC  
L19 14 S L13 AND C4H11NO2  
L20 1 S L19 AND 3/NC  
L21 3 S L13 AND (C18H38O OR C18H37CL OR C18H37BR OR C18H37I OR C18H37  
L22 2 S L21 NOT C6H14O3  
L23 4 S L18,L20,L22  
L24 STR  
L25 1 S L24 SAM SUB=L13  
L26 909 S L12 AND C3H6O  
L27 1431 S L13,L26  
L28 7 S L24 SAM SUB=L27  
L29 270 S L24 FUL SUB=L27  
SAV L29 SHAH904/A  
L30 28 S L29 AND 3/NC  
L31 21 S L30 NOT (SI/ELS OR 46.150.18/RID)  
SEL RN 2 3 5 13 14 15 17 18 19 20 21  
L32 11 S E9-E19  
L33 1 S L29 AND (C18H38O OR C18H37CL OR C18H37BR OR C18H37I OR C18H37  
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L35 0 S L34 CSS SAM SUB=L29  
L36 STR L34  
L37 0 S L36 CSS SAM SUB=L29  
L38 5 S L36 CSS FUL SUB=L29  
SAV L38 SHAH904A/A  
L39 1 S L38 AND 4/NC  
L40 13 S L23,L32,L33,L39  
SAV L40 SHAH904B/A  
E OCTADECANE, 1-BROMO/CN

L41 1 S E4  
E OCTADECANE, 1-CHLORO/CN  
L42 1 S E4  
E OCTADECANE, 1-FLUORO/CN  
L43 1 S E4  
E OCTADECANE, 1-iodo/CN  
L44 1 S E4  
E 1-OCTADECANOL/CN  
L45 1 S E3  
L46 5 S L41-L45  
L47 1 S L2 AND S/ELS  
L48 1 S L2 AND C4H11NO

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L49 10 S L40  
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L51 10 S L50 AND L46  
L52 10 S L50 AND L48  
L53 5 S L50 AND L47  
L54 0 S L51 AND L52 AND L53  
L55 0 S L51 AND L52  
L56 0 S L51 AND L53  
L57 25 S L51-L53  
L58 6 S L57 AND HAIR  
L59 3 S L49 AND HAIR  
L60 4 S L49 AND COSMETIC#/SC,SX,CW,BI  
L61 4 S L59,L60  
L62 6 S L49 NOT L61  
L63 1 S L61 AND L46,L48,L47  
L64 4 S L61,L63

FILE 'REGISTRY' ENTERED AT 17:55:52 ON 22 JUN 2004

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 17:56:14 ON 22 JUN 2004

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FILE COVERS 1907 - 22 Jun 2004 VOL 140 ISS 26

FILE LAST UPDATED: 21 Jun 2004 (20040621/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l64 all hitstr tot

L64 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:449466 HCAPLUS  
DN 137:24128  
ED Entered STN: 14 Jun 2002

TI Dyeing composition for keratinous fibers comprising an associative polymer and a polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid  
 IN Cottard, Francois; Rondeau, Christine  
 PA L'Oreal, Fr.  
 SO PCT Int. Appl., 66 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002045674	A1	20020613	WO 2001-FR3693	20011122
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
FR 2817467	A1	20020607	FR 2000-15682	20001204
FR 2817467	B1	20030110		
AU 2002022024	A5	20020618	AU 2002-22024	20011122
EP 1341506	A1	20030910	EP 2001-999221	20011122
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR	
US 2004060126	A1	20040401	US 2003-433506	20031024
PRAI FR 2000-15682	A	20001204		
WO 2001-FR3693	W	20011122		

AB The invention concerns a composition for dyeing keratinous fibers, in particular human keratinous fibers and more particularly **hair**, comprising, in a medium suitable for dyeing, at least an oxidation dye and/or a direct dye and at least an associative polymer, characterized in that it further comprises a polymer with acrylamide units (i), (ii)dialkyldiamllylammonium halide, and (iii) vinylic carboxylic acid. The invention also concerns dyeing methods and devices using said composition. A cationic polyurethane was prepared. A **hair** dye composition contained a mixture of C18-C24 alc. 3, a mixture of polyoxyethylene C18-C24 alc. 1, polyoxyethylene stearyl alc. 6.25, crosslinked polyacrylic acid 0.6, oleic acid 2.6, cationic polyurethane 3.5, copra acid monoisopropanolamide 3, Merquat plus-3330 1.2, propylene glycol 6, EDTA 0.2, sodium metabisulfite 0.71, tert-butylhydroquinone 0.3, 1,4-diaminobenzene 0.5, para-aminophenol 0.1, 1,3-dihydroxybenzene 0.6, 1-hydroxy-3-aminobenzene 0.1, 1- $\beta$ -hydroxyethyloxy-2,4-diamino-benzene dihydrochloride 0.04, monoethanolamine 1, 20% ammonia 11, perfume q.s., and water q.s. g. An oxidant composition contained fatty alc. 2.3, polyoxyethylene fatty alc. 0.6, fatty amides 0.9, glycerin 0.5, hydrogen peroxide 7.5, perfume q.s., and water q.s. g. The **hair** dye is mixed with oxidant composition at a ratio of 1:1.5 and applied on the **hair** for 30 min. The **hair** is then rinsed with water, washed with shampoo, rinsed, and dried to obtain a strong blond color.

ST oxidn dyeing **hair** glycerin polyol  
 IT Polyelectrolytes  
 Surfactants  
 (amphoteric; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)  
 IT Polyelectrolytes

- Surfactants  
(anionic; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Polyelectrolytes  
Surfactants  
(cationic; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Dyes  
(direct; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Coupling agents  
Oxidizing agents  
(dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Polymers, biological studies  
Polyoxyalkylenes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Hair preparations  
(dyes, oxidative; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(fatty, ethoxylated; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(fatty; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Surfactants  
(nonionic; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Salts, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(of peroxy acids; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Polyurethanes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyether-; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT Surfactants  
(zwitterionic; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)
- IT 95-54-5D, 1,2-Benzenediamine, derivs. 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine, derivs. 123-30-8D,

p-Aminophenol, derivs. 124-43-6 591-27-5D, derivs. 1321-67-1D,  
 Naphthol, derivs. 7722-84-1, Hydrogen peroxide, biological studies  
 9005-00-9 9055-15-6, Oxidoreductase 25136-75-8, Merquat plus-3330  
 25322-68-3, Polyethylene glycol 26062-79-3, Dimethyldiallylammonium  
 chloride homopolymer 26590-05-6

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(dyeing composition for keratinous fibers comprising associative polymer and  
 polymer with acrylamide units, dialkyldiallylammonium halide, and  
 vinylic carboxylic acid)

IT 435327-16-5P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)

(dyeing composition for keratinous fibers comprising associative polymer and  
 polymer with acrylamide units, dialkyldiallylammonium halide, and  
 vinylic carboxylic acid)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Boots Co Plc; WO 9744002 A 1997 HCAPLUS
- (2) Brown, K; US 5876463 A 1999 HCAPLUS
- (3) Cauwet-Martin, D; US 5976517 A 1999 HCAPLUS
- (4) Eugene, P; WO 9937278 A 1999 HCAPLUS
- (5) Juanico, S; WO 9913822 A 1999 HCAPLUS
- (6) Squibb Bristol Myers Co; WO 9410968 A 1994 HCAPLUS
- (7) Squibb Bristol Myers Co; WO 9936047 A 1999 HCAPLUS
- (8) Wella Ag; DE 19905615 A 2000 HCAPLUS

IT 435327-16-5P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)

(dyeing composition for keratinous fibers comprising associative polymer and  
 polymer with acrylamide units, dialkyldiallylammonium halide, and  
 vinylic carboxylic acid)

RN 435327-16-5 HCAPLUS

CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-  
 isocyanatocyclohexane], compd. with 1-bromooctadecane (9CI) (CA INDEX  
 NAME)

CM 1

CRN 112-89-0

CMF C18 H37 Br

Me- (CH<sub>2</sub>)<sub>17</sub>-Br

CM 2

CRN 435327-15-4

CMF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)n H2 O)x

CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS

Application No.: 09/904,516

Attorney Docket No.: 012237-0281573

R<sub>6</sub>, R<sub>8</sub> and R<sub>9</sub> are identical or different, are a linear or branched C<sub>1</sub>-C<sub>30</sub> alkyl or alkenyl radical or an aryl radical, wherein at least one of the carbon atoms optionally can be replaced by a heteroatom selected from the group consisting of N, S, O and P;

R<sub>10</sub> represents a linear or branched alkylene group which is optionally unsaturated and which optionally comprises one or more heteroatoms selected from the group consisting of N, O, S and P, and

A<sup>-</sup> is a physiologically acceptable counterion.

Claim 11. (Withdrawn) The polyurethane according to Claim 1, wherein Y represents a glycol selected from the group consisting of ethylene glycol, diethylene glycol and propylene glycol or a polymer selected from the group consisting of polyethers, sulphonated polyesters and sulphonated polyamides.

Claim 12. (Withdrawn) A method for using a polyurethane as defined in Claim 1 as a thickener or gelling agent comprising adding said polyurethane to a composition which is to be used for topical application as a cosmetic.

Claim 13. (Withdrawn) A cosmetic composition thickened or gellified with at least one water-soluble polyurethane according to Claim 1.

Claim 14. (Withdrawn) The polyurethane according to Claim 6, which has a number-average content mass ranging from 1,000 to 400,000.

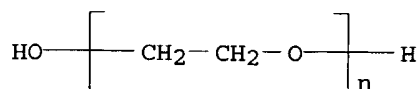
Claim 15. (Withdrawn) The polyurethane according to Claim 7, which has a number-average molecular weight ranging from 1,000 to 300,000.

Claim 16. (Withdrawn) The polyurethane according to Claim 1, wherein r is an integer between 1 and 50.

Claim 17. (Withdrawn) The polyurethane according to Claim 16, wherein r is an integer between 1 and 25.

Claim 18. (Previously presented) A cosmetic composition comprising water-dispersible amphiphilic cationic associative polyurethanes of formula (I):

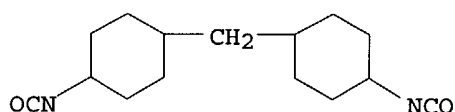




CM 4

CRN 5124-30-1

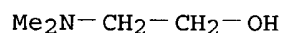
CMF C15 H22 N2 O2



CM 5

CRN 108-01-0

CMF C4 H11 N O



L64 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:449448 HCAPLUS

DN 137:24121

ED Entered STN: 14 Jun 2002

TI Oxidation dyeing composition for keratinous fibers comprising an associative polymer and a pearling agent

IN Cottard, Francois; Rondeau, Christine

PA L'oreal, Fr.

SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA French

ICI A61

CC 62-3 (Essential Oils and Cosmetics)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002045651	A2	20020613	WO 2001-FR3691	20011122
	WO 2002045651	A3	20020912		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	FR 2817466	A1	20020607	FR 2000-15681	20001204
	AU 2002022022	A5	20020618	AU 2002-22022	20011122
	EP 1341504	A2	20030910	EP 2001-999219	20011122
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			

US 2004049861 A1 20040318 US 2003-433505 20031024  
 PRAI FR 2000-15681 A 20001204  
 WO 2001-FR3691 W 20011122

AB The invention concerns a composition for dyeing keratinous fibers, in particular human keratinous fibers and more particularly **hair**, comprising in a medium suitable for dyeing, at least an oxidation dye and at least an associative polymer, characterized in that it further comprises at least a pearling agent selected among coated or uncoated titanium oxides and mica titanium. The invention also concerns dyeing methods and devices using said composition. A cationic polyurethane was prepared. A **hair** dye composition contained a mixture of C18-C24 alc. 3, a mixture of polyoxyethylene C18-C24 alc. 1, polyoxyethylene stearyl alc. 6.25, crosslinked polyacrylic acid 0.6, oleic acid 2.6, above cationic polyurethane 3.5, copra acid monoisopropanolamide 3, Micatitane 0.25, cationic polymer 4, EDTA 0.2, sodium metabisulfite 0.71, tert-butylhydroquinone 0.3, 1,4-diaminobenzene 0.5, para-aminophenol 1.2, 1,3-dihydroxybenzene 0.1, 1-hydroxy-3-aminobenzene 0.2, 1-methyl-2-hydroxy-4- $\beta$ -hydroxyethylamino-benzene 0.08, monoethanolamine 1, 20% ammonia 11, perfume q.s., and water q.s. g. An oxidant composition contained fatty alc. 2.3, polyoxyethylene fatty alc. 0.6, fatty amides 0.9, glycerin 0.5, hydrogen peroxide 7.5, perfume q.s., and water q.s. g. The **hair** dye is mixed with oxidant composition at a ratio of 1:1.5 and applied on the **hair** for 30 min. The **hair** is then rinsed with water, washed with shampoo, rinsed, and dried to obtain a copper color.

ST oxidn dyeing **hair** polymer pearling agent  
 IT Polyelectrolytes  
 Surfactants  
 (amphoteric; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Polyelectrolytes  
 Surfactants  
 (anionic; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Polyelectrolytes  
 Surfactants  
 (cationic; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Dyes  
 (direct; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT **Hair** preparations  
 (dyes, oxidative; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Surfactants  
 (nonionic; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Salts, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (of peroxy acids; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Coupling agents  
 Oxidizing agents  
 (oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Mica-group minerals, biological studies  
 Polymers, biological studies  
 Polyoxyalkylenes, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT Polyurethanes, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (polyether-; oxidation dyeing composition for keratinous fibers comprising  
 associative polymer and pearling agent)

IT Quaternary ammonium compounds, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (polymers; oxidation dyeing composition for keratinous fibers comprising  
 associative polymer and pearling agent)

IT Surfactants  
 (zwitterionic; oxidation dyeing composition for keratinous fibers comprising  
 associative polymer and pearling agent)

IT 95-54-5D, 1,2-Benzenediamine, derivs. 106-50-3D, 1,4-Benzenediamine,  
 derivs. 108-45-2D, 1,3-Benzenediamine, derivs. 123-30-8D,  
 p-Aminophenol, derivs. 124-43-6 591-27-5D, derivs. 1321-67-1D,  
 Naphthol, derivs. 7722-84-1, Hydrogen peroxide, biological studies  
 9055-15-6, Oxidoreductase 13463-67-7, Titanium dioxide, biological  
 studies 25322-68-3, Polyethylene glycol 26062-79-3,  
 Dimethyldiallylammonium chloride homopolymer 98616-25-2, Quatrisoft  
 lm200 138789-85-2, Pemulen tr1 193487-42-2, Aculyn 44 233265-18-4,  
 Aculyn 46  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidation dyeing composition for keratinous fibers comprising associative  
 polymer and pearling agent)

IT 435327-16-5P  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)  
 (oxidation dyeing composition for keratinous fibers comprising associative  
 polymer and pearling agent)

IT 435327-16-5P  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)  
 (oxidation dyeing composition for keratinous fibers comprising associative  
 polymer and pearling agent)

RN 435327-16-5 HCAPLUS

CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-  
 isocyanatocyclohexane], compd. with 1-bromooctadecane (9CI) (CA INDEX  
 NAME)

CM 1

CRN 112-89-0

CMF C18 H37 Br

Me- (CH<sub>2</sub>)<sub>17</sub>-Br

CM 2

CRN 435327-15-4

CMF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)<sub>n</sub> H2 O)<sub>x</sub>

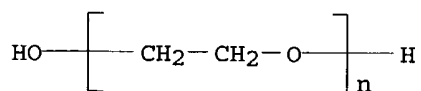
CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

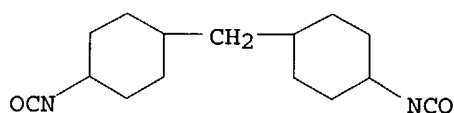
CCI PMS



CM 4

CRN 5124-30-1

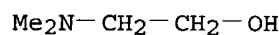
CMF C15 H22 N2 O2



CM 5

CRN 108-01-0

CMF C4 H11 N O



L64 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:69413 HCAPLUS  
 DN 136:118886  
 ED Entered STN: 25 Jan 2002  
 TI Associative cationic polyurethanes and their use as thickeners and gelling agents  
 IN Mougin, Nathalie; Cottard, Francois; De La Mettrie, Roland; Lion, Bertrand; Maury, Elise  
 PA L'Oreal, Fr.  
 SO Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM C08G018-08  
 ICS C08G018-28; C08G018-32; C08G018-48; A61K007-00; C09D007-00  
 CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 62

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1174450	A1	20020123	EP 2001-401818	20010706
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2811993	A1	20020125	FR 2000-9609	20000721
	CN 1334277	A	20020206	CN 2001-120612	20010716
	ZA 2001005821	A	20020207	ZA 2001-5821	20010716
	US 2003124079	A1	20030703	US 2001-904516	20010716
	BR 2001002946	A	20020305	BR 2001-2946	20010718
	AU 765016	B2	20030904	AU 2001-54483	20010718
	RU 2213102	C2	20030927	RU 2001-120440	20010720
	JP 2002105161	A2	20020410	JP 2001-221150	20010723
PRAI	FR 2000-9609	A	20000721		
AB	Cationic polyurethanes, useful as thickeners and gelling agents for				

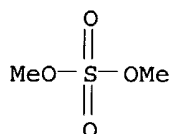
**cosmetics**, are based on the formula:  $RX(P)n[L(Y)m]rL'(P')pX'R'$  [R, R' = hydrophobic group or H; X, X' = amine group (optionally bearing a hydrophobic group) or L''; L, L', L'' = group derived from a diisocyanate; P, P' = amine group (optionally bearing a hydrophobic group); Y = hydrophilic group; r = 1-100; n, m, p = 0-1000], with the polymers having  $\geq 1$  of the amine groups being protonated or quaternized and having  $\geq 1$  hydrophobic group. A typical polymer was manufactured polymerization of 4 mol methylenebiscyclohexyl diisocyanate with 1 mol polyethylene glycol, reaction of the product with 2 mol each stearyl alc. and N-methylethanolamine and quaternization of the 2nd intermediate with 2 mol (Me)<sub>2</sub>SO<sub>4</sub>.

- ST cationic polyurethane thickener gelling agent **cosmetic**;  
methylenebiscyclohexyl diisocyanate methylethanolamine polyoxyethylene  
copolymer stearyl deriv sulfate manuf
- IT Amphiphiles  
**Cosmetics**  
Gelation agents  
Thickening agents  
(associative cationic polyurethanes for thickeners and gelling agents  
for **cosmetics**)
- IT Quaternary ammonium compounds, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polymers; associative cationic polyurethanes for thickeners and  
gelling agents for **cosmetics**)
- IT Polyurethanes, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-; associative cationic polyurethanes for thickeners  
and gelling agents for **cosmetics**)
- IT Polyurethanes, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polyurea-; associative cationic polyurethanes for  
thickeners and gelling agents for **cosmetics**)
- IT Polyureas  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polyurethane-; associative cationic polyurethanes for  
thickeners and gelling agents for **cosmetics**)
- IT 77-78-1DP, Dimethyl sulfate, reaction products with  
methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene  
glycol copolymer-stearyl alc. adducts 108-01-0DP,  
N,N-Dimethylethanolamine, reaction products with methylenebiscyclohexyl  
diisocyanate-polyethylene glycol copolymer and stearyl chloride  
112-76-5DP, Stearyl chloride, reaction products with  
methylenebiscyclohexyl diisocyanate-polyethylene glycol  
copolymer-dimethylethanolamine adducts 112-89-0DP, Stearyl  
bromide, reaction products with methylenebiscyclohexyl  
diisocyanate-polyethylene glycol copolymer-dimethylethanolamine adducts  
112-92-5DP, Stearyl alcohol, reaction products with  
methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene  
glycol copolymer and di-Me sulfate 144441-11-2DP, reaction products with  
N,N-dimethylethanolamine and stearyl chloride 389885-98-7DP,  
reaction products with stearyl alc. and di-Me sulfate  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(associative cationic polyurethanes for thickeners and gelling agents  
for **cosmetics**)

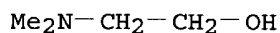
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Coudurier, M; US 4068035 A 1978
- (2) Laine, A; US 4617341 A 1986 HCAPLUS

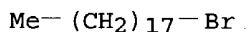
(3) Nat Starch Chem Invest; EP 0978522 A 2000 HCAPLUS  
 IT 77-78-1DP, Dimethyl sulfate, reaction products with methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene glycol copolymer-stearyl alc. adducts 108-01-0DP, N,N-Dimethylethanolamine, reaction products with methylenebiscyclohexyl diisocyanate-polyethylene glycol copolymer and stearyl chloride 112-89-0DP, Stearyl bromide, reaction products with methylenebiscyclohexyl diisocyanate-polyethylene glycol copolymer-dimethylethanolamine adducts 112-92-5DP, Stearyl alcohol, reaction products with methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene glycol copolymer and di-Me sulfate 389885-98-7DP, reaction products with stearyl alc. and di-Me sulfate  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (associative cationic polyurethanes for thickeners and gelling agents for cosmetics)  
 RN 77-78-1 HCAPLUS  
 CN Sulfuric acid, dimethyl ester (8CI, 9CI) (CA INDEX NAME)



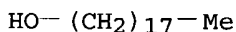
RN 108-01-0 HCAPLUS  
 CN Ethanol, 2-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)



RN 112-89-0 HCAPLUS  
 CN Octadecane, 1-bromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



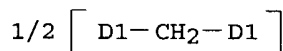
RN 112-92-5 HCAPLUS  
 CN 1-Octadecanol (8CI, 9CI) (CA INDEX NAME)



RN 389885-98-7 HCAPLUS  
 CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[isocyanatocyclohexane], block (9CI) (CA INDEX NAME)

CM 1

CRN 28605-81-4  
 CMF C15 H22 N2 O2  
 CCI IDS



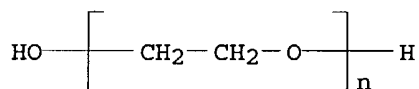
D1-NCO

CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

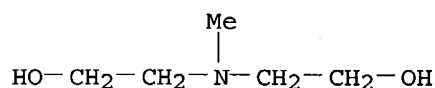
CCI PMS



CM 3

CRN 105-59-9

CMF C5 H13 N O2



L64 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:380360 HCAPLUS  
 DN 134:371587  
 ED Entered STN: 27 May 2001  
 TI Oxidative **hair** dye composition containing a combination of two  
 polyether polyurethanes  
 IN Allard, Delphine; Cottard, Francois; Legrand, Frederic  
 PA L'oreal, Fr.  
 SO PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and **Cosmetics**)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001035916	A1	20010525	WO 2000-FR2902	20001018
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,				
	CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,				
	ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,				
	LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,				

SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
 ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2801205 A1 20010525 FR 1999-14506 19991118

FR 2801205 B1 20030613

EP 1233742 A1 20020828 EP 2000-969639 20001018

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL

PRAI FR 1999-14506 A 19991118

WO 2000-FR2902 W 20001018

AB The invention concerns compns. for dyeing keratinous fibers and in particular human keratinous fibers such as **hair**, comprising at least two particular polyether polyurethanes. The invention also concerns the use of said compns. for improving or restoring gloss to said fibers, and methods and devices using said compns. A **hair** dye composition contained ethoxylated fatty alc. 32.5, oleic acid 2, oleyl alc. 1.8, fatty amide 4, glycerin 3, 60% cationic polymer 2, Merquat 280 2, sequestering agent q.s., reducing agents q.s., 20% ammonia 8, oxidative **hair** dye q.s., Aculyn 46 0.1, Aculyn 44 0.1, and water q.s. 100%. One part of the above composition was mixed with 1.5 part of an oxidant composition containing 7.8%

hydrogen peroxide and applied on the **hair** for 30 min. The **hair** was then rinsed with water, washed with shampoo, rinsed with water and dried. Aculyn 46 and Aculyn 44 had a synergistic effect on the brilliance of the **hair**.

ST oxidative **hair** dye polyether polyurethanes

IT Dyes

(direct; oxidative **hair** dye composition containing combination of two polyether polyurethanes)

IT **Hair** preparations

(dyes, oxidative; oxidative **hair** dye composition containing combination of two polyether polyurethanes)

IT Salts, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(of peroxy acids; oxidative **hair** dye composition containing combination of two polyether polyurethanes)

IT Anthraquinone dyes

Azo dyes

Coupling agents

(oxidative **hair** dye composition containing combination of two polyether polyurethanes)

IT Polyurethanes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(polyether-; oxidative **hair** dye composition containing combination of two polyether polyurethanes)

IT 91-20-3D, Naphthalene, polyhydroxy derivs., biological studies 95-55-6D, o-Aminophenol, derivs. 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 591-27-5D, derivs. 7722-84-1, Hydrogen peroxide, biological studies 65899-82-3 193487-42-2, Aculyn 44 233265-18-4, Aculyn 46 340735-59-3

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative **hair** dye composition containing combination of two polyether polyurethanes)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bristol-Myers Squibb Co; WO 9936047 A 1999 HCAPLUS

(2) L'Oreal; FR 2769221 A 1999 HCAPLUS



(3) National Starch And Chem Inv Hold Corp; EP 0978522 A 2000 HCAPLUS

(4) The Procter & Gamble Co; WO 9724106 A 1997 HCAPLUS

(5) The Procter & Gamble Co; WO 9827941 A 1998 HCAPLUS

IT 340735-59-3

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye composition containing combination of two polyether polyurethanes)

RN 340735-59-3 HCAPLUS

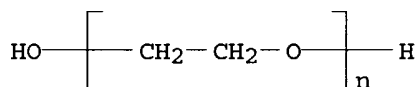
CN 1-Octadecanol, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

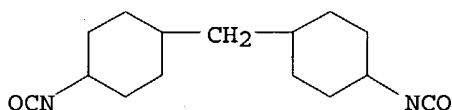
CCI PMS



CM 2

CRN 5124-30-1

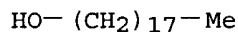
CMF C15 H22 N2 O2



CM 3

CRN 112-92-5

CMF C18 H38 O



=> => d 162 bib abs hitstr tot

L62 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:697315 HCAPLUS

DN 129:277262

TI Polyurethanes for thin-walled elastic articles

IN Alsaffar, Eman

PA LRC Products Limited, UK

SO Brit. UK Pat. Appl., 16 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2316948	A1	19980311	GB 1997-18276	19970828
	GB 2316948	B2	20010110		
	US 6389602	B1	20020521	US 1999-265573	19990310
PRAI	GB 1996-18504	A	19960905		

AB Linear polyurethane rubbers with 100% modulus <2.0 MPa, breaking elongation ≥800%, and tensile strength >16 MPa, useful for thin-walled articles, have number-average mol. weight 90,000-150,000, polydispersity 1.2-2.2, hard-soft segment ration (20-40):(60-80) and are manufactured from an α,ω-dihydroxy polyol such as polypropylene glycol containing unsatn. ≤0.01 mequiv/g, an aliphatic diisocyanate, and a chain extender.

IT **213915-66-3P**, Ethanolamine-4,4'-methylenebis(cyclohexyl isocyanate)-polypropylene glycol copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyurethanes for thin-walled elastic articles)

RN 213915-66-3 HCAPLUS

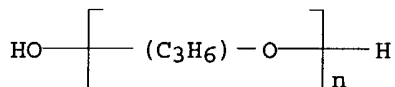
CN Ethanol, 2-amino-, polymer with α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

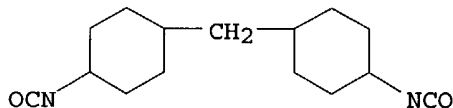
CCI IDS, PMS



CM 2

CRN 5124-30-1

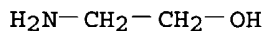
CMF C15 H22 N2 O2



CM 3

CRN 141-43-5

CMF C2 H7 N O



TI Water-repellent, permeable polyurethane coatings for textiles  
 IN Dahmen, Kurt; Stockhausen, Dolf; Stukenbrock, Karl Heinz  
 PA Chemische Fabrik Stockhausen G.m.b.H., Fed. Rep. Ger.  
 SO Ger. Offen., 7 pp.  
 CODEN: GWXXBX

DT Patent  
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3633874	A1	19880414	DE 1986-3633874	19861004
	DE 3633874	C2	19881013		
	EP 283556	A2	19880928	EP 1987-114169	19870929
	EP 283556	A3	19890830		
	EP 283556	B1	19920520		
	R: CH, DE, FR, GB, LI, NL				
	CA 1301566	A1	19920526	CA 1987-548146	19870929
	JP 63099376	A2	19880430	JP 1987-248229	19871002
	US 4774131	A	19880927	US 1987-105944	19871002
PRAI	DE 1986-3633874		19861004		

AB The title coatings are applied by coating textiles with cationic aqueous dispersions of polyurethanes bearing covalently bound solubilizing groups and then with anionic aqueous dispersions of polyurethanes bearing such groups, or vice versa. A 66:33 polyester-cotton fabric (160 g/m<sup>2</sup>) was coated with 30 g/m<sup>2</sup> (wet basis) paste containing 100 parts 30% aqueous cationic polyurethane dispersion [viscosity 50 mPa-s, prepared from polypropylene glycol (mol. weight 1000), dicyclohexylmethane diisocyanate, and MeN(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub>] and 5 parts 50% thickener and then, without drying, coated with 40 g/m<sup>2</sup> paste containing 70 parts 40% aqueous anionic polyurethane dispersion

[viscosity 300 mPa-s, from polyoxyalkylated glycerol (mol. weight 4000), isophorone diisocyanate, and dimethylolpropionic acid], 6 parts thickener, and 23 parts H<sub>2</sub>O, dried, and finished with a fluorocarbon emulsion to give a fabric with water column (DIN 53 886) 700-730 mm and spray test (AA TCC 22-1974) 90-100 (730 and 90-100, resp., after drycleaning) and moisture permeability 9.44 mg/cm<sup>2</sup>-h.

IT 53488-86-1

RL: USES (Uses)

(waterproofing finishes, moisture-permeable, for textiles)

RN 53488-86-1 HCAPLUS

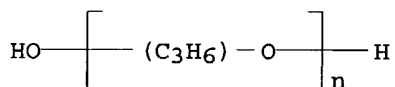
CN Ethanol, 2,2'-(methylimino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C<sub>3</sub> H<sub>6</sub> O)<sub>n</sub> H<sub>2</sub> O

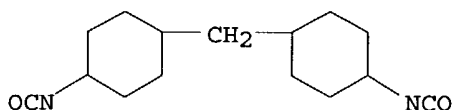
CCI IDS, PMS



CM 2

CRN 5124-30-1

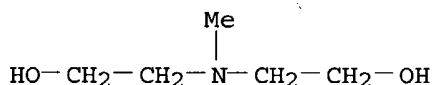
CMF C<sub>15</sub> H<sub>22</sub> N<sub>2</sub> O<sub>2</sub>



CM 3

CRN 105-59-9

CMF C5 H13 N O2



L62 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:628134 HCAPLUS

DN 105:228134

TI Adhesives for polyolefin articles

IN Murachi, Tatsuya

PA Toyoda Gosei Co., Ltd., Japan

SO Ger. Offen., 36 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3601272	A1	19860717	DE 1986-3601272	19860117
	DE 3601272	C2	19911128		
	JP 61164827	A2	19860725	JP 1985-6491	19850117
	JP 61200185	A2	19860904	JP 1985-41710	19850301
	JP 03002469	B4	19910116		
	JP 61268779	A2	19861128	JP 1985-109654	19850522
	JP 04063911	B4	19921013		
PRAI	JP 1985-6491		19850117		
	JP 1985-41710		19850301		
	JP 1985-109654		19850522		

AB Adhesives for polyolefin resin or rubber articles comprise copolymers of  $C_{\geq 18}$  alkyl (meth)acrylates and an active H-containing monomer and a polyurethane and/or polyisocyanate. Thus, a polyurethane (I) prepared from 1 mol polypropylene glycol, 0.7 mol triethanolamine, and sufficient MDI for a 1:4 OH-NCO ratio in a trichloroethylene-PhMe solvent was mixed with Bu acrylate-maleic anhydride copolymer (II, acid number 20-25) in a 1:1:1 PhMe-cyclohexane-EtOAc solvent at 1:100 I-II ratio to give an adhesive that was used to bond 2 pieces of EPDM rubber vulcanizate, giving a laminate with shear strength 780 g/cm<sup>2</sup>, compared with 0 in the absence of I.

IT 105607-05-4

RL: TEM (Technical or engineered material use); USES (Uses)

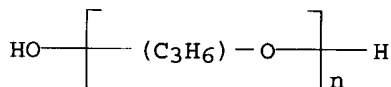
(adhesives, containing active hydrogen-containing acrylic copolymers, for polyolefin or rubber articles)

RN 105607-05-4 HCAPLUS

CN Ethanol, 2,2',2''-nitrilotris-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

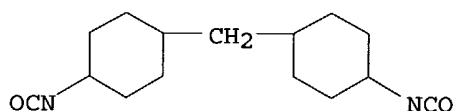
CM 1

CRN 25322-69-4  
 CMF (C3 H6 O)<sub>n</sub> H2 O  
 CCI IDS, PMS



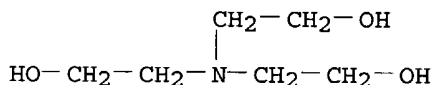
CM 2

CRN 5124-30-1  
 CMF C15 H22 N2 O2



CM 3

CRN 102-71-6  
 CMF C6 H15 N O3



L62 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1983:424226 HCAPLUS

DN 99:24226

TI Printing ink composition for ink jet printing

IN Kobayashi, Tatsuhiko; Kitamura, Shigehiro

PA Konishiroku Photo Industry Co., Ltd. , Japan

SO Ger. Offen., 27 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3233555	A1	19830331	DE 1982-3233555	19820910
	JP 58045272	A2	19830316	JP 1981-142430	19810911
	GB 2105735	A1	19830330	GB 1982-25215	19820903
	GB 2105735	B2	19850130		
PRAI	JP 1981-142430		19810911		

AB Inks with high d., giving stable jet printing, consist of aqueous dispersions of polyurethane particles containing dyes. Thus, mixing 6% polyurethane [86189-44-8] latex [from polypropylene glycol (d.p. 35) 16.7, m-phenylene diisocyanate 66.6, and (HOCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>N+Me<sub>2</sub> 16.7 mol%] 100, Me<sub>2</sub>CO 100, EtOAc 10, and C.I. Solvent Blue (C.I. Number 42563B) 6 g, evapog. the solvents, and adding 10% K<sub>2</sub>CO<sub>3</sub> 12, Et(OCH<sub>2</sub>CH<sub>2</sub>)<sub>4</sub>OEt 92, and H(OCH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>OH 36 g gave an ink which would be filtered through filter paper without clogging and whose viscosity (7.3 cP at 25°) and surface tension (42.5 dyn/cm) were unchanged after 1-mo storage.

IT 86189-43-7

RL: USES (Uses)

(latexes, in jet printing inks)

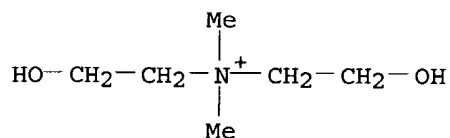
RN 86189-43-7 HCAPLUS

CN Ethanaminium, 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethyl-, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and  
 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 44798-79-0

CMF C6 H16 N O2

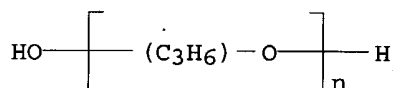


CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

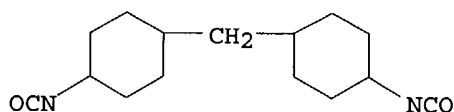
CCI IDS, PMS



CM 3

CRN 5124-30-1

CMF C15 H22 N2 O2



L62 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:36973 HCAPLUS

DN 96:36973

TI Urethane rheology modifiers and compositions containing them

IN Schimmel, Karl F.; Seiner, Jerome A.; Dowbenko, Rostyslaw; Christenson, Roger M.

PA PPG Industries, Inc. , USA

SO U.S., 7 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4298511	A	19811103	US 1980-174479	19800801

CA 1179090	A1	19841204	CA 1981-378000	19810521
NL 8102767	A	19820301	NL 1981-2767	19810609
ES 503273	A1	19821001	ES 1981-503273	19810622
BR 8104280	A	19820323	BR 1981-4280	19810706
SE 8104228	A	19820202	SE 1981-4228	19810707
SE 457354	B	19881219		
SE 457354	C	19890420		
DE 3127429	A1	19820401	DE 1981-3127429	19810711
AT 8103168	A	19860215	AT 1981-3168	19810717
AT 381325	B	19860925		
JP 57051777	A2	19820326	JP 1981-115828	19810722
JP 60033148	B4	19850801		
AU 8173527	A1	19820204	AU 1981-73527	19810729
AU 528106	B2	19830414		
FR 2487839	A1	19820205	FR 1981-14901	19810730
FR 2487839	B1	19851220		
BE 889821	A1	19820201	BE 1981-205552	19810731
GB 2081283	A	19820217	GB 1981-23452	19810731
GB 2081283	B2	19840125		
PRAI US 1980-174479		19800801		

AB Rheol. modifiers, useful in water- and solvent-based coating compns., are obtained from the reaction of a poly(alkylene oxide), polyfunctional compound, diisocyanate, and water. Thus, 1-methyl-2-pyrrolidinone (I) 398, poly(ethylene oxide) 500, and trimethylolpropane 1.5 parts were heated to 105°. Then 9.9 parts 1% solution of dibutyltin dilaurate in I and 3.5.6 parts Hylene W [bis(p-isocyanatocyclohexyl)methane] were added at 110° to give a copolymer [67554-43-2] solution (A). A formulation containing 261.6 parts Walpol 40-143 [poly(vinyl acetate)] latex and 45 parts A (14.8% solids) had Brookfield viscosity 2100 cPs (number 4 spindle, 6 rpm), compared with 22,400 cPs for the unmodified latex.

IT 80438-09-1  
RL: USES (Uses)  
(rheol. modifiers, for coating materials)

RN 80438-09-1 HCAPLUS

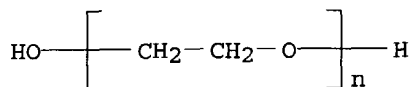
CN Ethanol, 2,2'-iminobis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

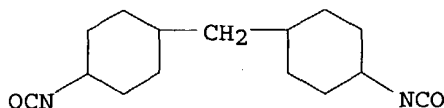
CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 3

CRN 111-42-2

CMF C4 H11 N O2



L62 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1978:511442 HCAPLUS  
 DN 89:111442  
 TI Aqueous film-forming dispersions  
 IN Loewrigkeit, Peter; Van Dyk, Kenneth A.; McGimpsey, Thomas T.  
 PA Witco Chemical Corp., USA  
 SO Ger. Offen., 53 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2743479	A1	19780615	DE 1977-2743479	19770928
	DE 2743479	C2	19930708		
	US 4160065	A	19790703	US 1976-750476	19761214
	CA 1093722	A1	19810113	CA 1977-289176	19771020
	FR 2374346	A1	19780713	FR 1977-31792	19771021
	FR 2374346	B1	19840622		
	GB 1594028	A	19810730	GB 1977-51365	19771209
PRAI	US 1976-750476		19761214		

AB Quaternized urethane prepolymers containing terminal NCO groups reacted with water and a polyepoxide, a cyclic anhydride, or glyoxal to give polyurethane-polyureas as stable latexes. The latexes were used to prepare films, textile laminates, etc. The dried polymers had good resistance to hydrolysis and solvents. Thus, a mixture of polypropylene glycol (OH number 56) 47.446, trimethylolpropane 0.357, and MeN(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub> 2.699 kg was treated with 25.084 kg bis(4-isocyanatocyclohexyl)methane and 12 g Bu<sub>2</sub>Sn dilaurate, mixed with 32.205 kg acetone and 2.857 kg Me<sub>2</sub>SO<sub>4</sub>, and mixed (36.288 kg) with Epon 830 1.288, tris(butoxyethyl) phosphate 0.258, Igepal CO 730 0.517, cetyl alc. 0.05, stabilizers 0.321, acetone 0.9, H<sub>2</sub>O 79.38, and triethylenediamine 0.0029 kg to prepare a stable latex. A hardened film prepared from the latex had tensile strength 281-316 kg/cm<sup>2</sup> and Shore A hardness 77.

IT 53488-86-1D, reaction products with di-Me sulfate, water, and diepoxides, anhydrides, or dialdehydes

RL: USES (Uses)

(latexes, for hydrolysis- and solvent-resistant films and laminates)

RN 53488-86-1 HCAPLUS

CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

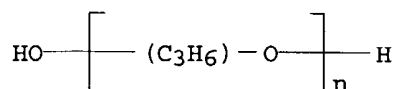
CM 1

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS

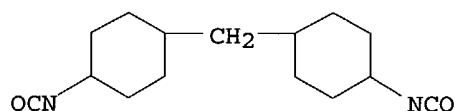




CM 2

CRN 5124-30-1

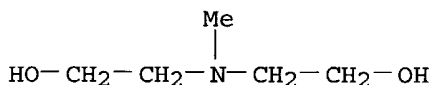
CMF C15 H22 N2 O2



CM 3

CRN 105-59-9

CMF C5 H13 N O2



=&gt; =&gt; fil uspatall

FILE 'USPATFULL' ENTERED AT 17:59:12 ON 22 JUN 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 17:59:12 ON 22 JUN 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=&gt; d his l65-

(FILE 'USPATFULL, USPAT2' ENTERED AT 17:57:24 ON 22 JUN 2004)

L65 7 S L40  
 L66 1 S L65 AND 424/INCLM,INCLS,NCLM,NCLS  
 L67 3 S L65 AND (HAIR? OR KERATIN?)/BI,CT  
 L68 3 S L66,L67

FILE 'USPATFULL, USPAT2' ENTERED AT 17:59:12 ON 22 JUN 2004

=&gt; d bib abs kwic hitstr tot l68

L68 ANSWER 1 OF 3 USPATFULL on STN

AN 2004:79692 USPATFULL

TI Dyeing composition for **keratinous** fibres comprising an  
 associative polymer and a polymer with acrylamide units,  
 dialkyldiallylammonium halide, and vinylic carboxylic acid

IN Cottard, Francois, Levallois-Perret, FRANCE  
 Rondeau, Christine, Sartrouville, FRANCE

PI US 2004060126 A1 20040401

AI US 2003-433506 A1 20031024 (10)

WO 2001-FR3693 20011122

PRAI FR 2000-15682 20001204

DT Utility  
FS APPLICATION  
LREP Finnegan Henderson Farabow, Garrett & Dunner, 1300 I Street N W,  
Washington, DC, 20005  
CLMN Number of Claims: 40  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 2069

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns a composition for dyeing and in particular oxidation dyeing of **keratinous** fibres, in particular human **keratinous** fibres and more particularly **hair**, comprising, in a medium suitable for dyeing, at least an oxidation dye and/or a direct dye and at least an associative polymer, characterised in that it further comprises a polymer with acrylamide units (i), (ii) dialkyldiallylammonium halide, and (iii) vinylic carboxylic acid. The invention also concerns dyeing methods and devices using said dyeing composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Dyeing composition for **keratinous** fibres comprising an associative polymer and a polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid

AB The invention concerns a composition for dyeing and in particular oxidation dyeing of **keratinous** fibres, in particular human **keratinous** fibres and more particularly **hair**, comprising, in a medium suitable for dyeing, at least an oxidation dye and/or a direct dye and at least an . . .

SUMM [0001] The invention relates to a composition for the dyeing and especially for the oxidation dyeing of **keratin** fibers, in particular of human **keratin** fibers and more particularly the **hair**, comprising, in a medium that is suitable for dyeing, at least one oxidation dye and/or a direct dye and at . . .

SUMM [0003] In the **hair** sector, two types of dyeing may be distinguished.

SUMM . . . semi-permanent or temporary dyeing, or direct dyeing, which involves dyes that are capable of giving the natural coloration of the **hair** a more or less pronounced color change that may be resistant to shampoo-washing several times. These dyes are known as . . . an oxidizing agent, the aim is to obtain lightening direct dyeing. Lightening dyeing is carried out by applying to the **hair** an extemporaneous mixture of a direct dye and an oxidizing agent, which makes it possible especially to obtain, by lightening the melanin of the **hair**, an advantageous effect such as a uniform color in the case of gray **hair**, or to bring out the color in the case of naturally pigmented **hair**.

SUMM . . . called "oxidation bases", are compounds that are initially uncolored or only weakly colored, which develop their dyeing power on the **hair** in the presence of oxidizing agents that are added at the time of use, leading to the formation of colored. . .

SUMM [0009] The dyes must also be able to cover gray **hair**, and, finally, they must be as unselective as possible, i.e. they must produce the smallest possible color differences along the same **keratin** fiber, which may in fact be differently sensitized (i.e. damaged) between its end and its root.

SUMM [0010] To localize the oxidation dye product to application to the **hair**, so that it does not run onto the face or beyond the areas that it is intended to dye, in. . .

SUMM . . . chromatic shades with low selectivities and good staying power, and in terms of the cosmetic properties imparted to the treated **hair**, said dye compositions comprising in the dye composition, or in the oxidizing composition (when it is a lightening direct dye. . .

SUMM [0014] One subject of the present invention is thus a novel composition for the dyeing of **keratin** fibers, in particular of human **keratin** fibers such as the **hair**, comprising, in a medium that is suitable for dyeing, at least one dye and at least one associative polymer, and. . .

SUMM [0016] Another subject of the present invention relates to a ready-to-use composition for the dyeing of **keratin** fibers, in particular of human **keratin** fibers such as the **hair**, comprising at least one dye (direct dye or oxidation dye), at least one associative polymer, at least one polymer containing. . .

SUMM . . . the purposes of the present invention, the expression "ready-to-use composition" means any composition intended to be applied immediately to the **keratin** fibers; it may thus be stored before use without further modification, or may result from the extemporaneous mixing of two. . .

SUMM [0018] The invention is also directed toward a process for the dyeing of **keratin** fibers, and in particular of human **keratin** fibers such as the **hair**, which consists in applying to the fibers at least one dye composition comprising, in a medium that is suitable for. . .

SUMM . . . the present invention may be chosen from all those already known per se as improving the cosmetic properties of the **hair**, i.e. especially those described in patent application EP-A-337 354 and in French patents FR-2 270 846, 2 383 660, 2. . .

SUMM [0390] The pH of the ready-to-use composition applied to the **keratin** fibers [composition resulting from mixing together the dye composition and the oxidizing composition] is generally between 3 and 12. It. . . the desired value using acidifying or basifying agents that are well known in the prior art in the dyeing of **keratin** fibers.

SUMM . . . the time of use (ready-to-use composition) from the dye composition and the oxidizing composition described above, to wet or dry **keratin** fibers, and in leaving the composition to act for an exposure time preferably ranging from 1 to 60 minutes approximately,. . .

DETD [0406] The mixture obtained was applied to locks of natural **hair** containing 90% white **hairs** and was left to act for 30 minutes.

DETD [0408] The **hair** was dyed a dark blonde shade, with good staying power, and the cosmetic condition of the **hair** was improved.

DETD [0413] The mixture obtained was applied to locks of natural **hair** containing 90% white **hairs** and was left to act for 30 minutes.

DETD [0415] The **hair** was dyed a dark blonde shade, with good staying power, and the cosmetic condition of the **hair** was improved.

DETD . . . as in example 3, the oxidation dye composition obtained gave identical performance qualities in terms of cosmetic condition of the **hair** and dyeing power.

DETD . . . as in exampel 3, the oxidation dye composition obtained gave identical performance qualities in terms of cosmetic condition of the **hair** and dyeing power.

CLM What is claimed is:

1. A composition for the dyeing of **keratin** fibers, in particular of human **keratin** fibers and more particularly the **hair**, comprising, in a medium that is suitable for dyeing, at least one dye and at least one associative polymer, and. . .
37. A process for the dyeing of **keratin** fibers, in particular of human **keratin** fibers and more particularly the **hair**, characterized in tha tit consists in applying to the fibers at least one dye composition comprising, in a medium that. . .

. . . The process as claimed in claim 37 or 38, characterized in that it consists in applying to wet or dry **keratin** fibers the ready-to-use composition prepared extemporaneously at the time of use

from the dye composition and oxidizing composition, in leaving. . .

40. A multi-compartment device or "kit" for the dyeing of **keratin** fibers, in particular of human **keratin** fibers and more particularly the **hair**, characterized in that it comprises at least two compartments, one of which contains a dye composition comprising, in a medium. . .

IT **Hair preparations**

(dyes, oxidative; dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)

IT **435327-16-5P**

(dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)

IT **435327-16-5P**

(dyeing composition for keratinous fibers comprising associative polymer and polymer with acrylamide units, dialkyldiallylammonium halide, and vinylic carboxylic acid)

RN 435327-16-5 USPATFULL

CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane], compd. with 1-bromooctadecane (9CI) (CA INDEX NAME)

CM 1

CRN 112-89-0

CMF C18 H37 Br

Me-(CH<sub>2</sub>)<sub>17</sub>-Br

CM 2

CRN 435327-15-4

CMF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)<sub>n</sub> H2 O)<sub>x</sub>

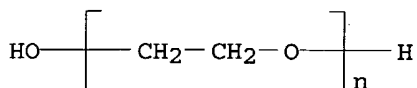
CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

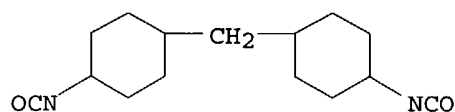
CCI PMS



CM 4

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 5

CRN 108-01-0  
CMF C4 H11 N O

Me<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-OH

L68 ANSWER 2 OF 3 USPATFULL on STN

AN 2004:66647 USPATFULL

TI Oxidation dyeing composition for **keratinous** fibres comprising  
an associative polymer and a pearling agent

IN Cottard, Francois, Levallois-Perret, FRANCE  
Rondeau, Christine, Sartrouville, FRANCE

PI US 2004049861 A1 20040318

AI US 2003-433505 A1 20031024 (10)

WO 2001-FR3691 20011122

PRAI FR 2000-15681 20001204

DT Utility

FS APPLICATION

LREP FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 1300 I STREET, NW,  
WASHINGTON, DC, 20005

CLMN Number of Claims: 33

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 2025

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns a composition for dyeing **keratinous**  
fibres, in particular human **keratinous** fibres and more  
particularly **hair**, comprising, in a medium suitable for  
dyeing, at least an oxidation dye and at least an associative polymer,  
characterised in that it further comprises at least a pearling agent  
selected among coated or uncoated titanium oxides and mica titanium. The  
invention also concerns dyeing methods and devices using said  
composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Oxidation dyeing composition for **keratinous** fibres comprising  
an associative polymer and a pearling agent

AB The invention concerns a composition for dyeing **keratinous**  
fibres, in particular human **keratinous** fibres and more  
particularly **hair**, comprising, in a medium suitable for  
dyeing, at least an oxidation dye and at least an associative polymer,  
characterised in. . .

SUMM [0001] The invention relates to a composition for the oxidation dyeing  
of **keratinous** fibers, in particular human **keratinous**  
fibers, and more particularly **hair**, comprising, in an  
appropriate medium for dyeing, at least one oxidation dye and at least  
one associative polymer, and which. . .

SUMM [0003] In the **hair** domain, it is possible to distinguish two  
types of dyeing.

SUMM . . . first is semipermanent or temporary dyeing, or direct dyeing,  
which involves dyes capable of giving the natural coloration of the

**hair** a more or less marked color modification which is possibly resistant to several shampoos. These dyes are called direct dyes.

SUMM . . . commonly called "oxidation bases", are compounds which are initially colorless or faintly colored which develop their dyeing power inside the **hair** in the presence of oxidizing agents added at the time of use, leading to the formation of colored and dyeing. . .

SUMM [0009] The dyes should also make it possible to cover gray **hair**, and should finally be the least selective possible, that is to say they should make it possible to obtain the smallest possible differences in coloration all along the same **keratinous** fiber, which may indeed be differently sensitized (i.e. damaged) between its tip and its root.

SUMM [0011] To confine the oxidation dyeing product upon application to the **hair** so that it does not run over the face or outside the areas which it is desired to dye, associative. . .

SUMM [0015] The subject of the present invention is thus a novel composition for the oxidation dyeing of **keratinous** fibers, in particular human **keratinous** fibers, and more particularly **hair**, comprising, in an appropriate medium for dyeing, at least one oxidation dye and at least one associative polymer, and which. . .

SUMM . . . mixing with the oxidizing agent, a composition which is more esthetic and more creamy in appearance, and which consumers and **hairedressing** salon technicians find a lot more satisfactory.

SUMM [0017] Another subject of the present invention relates to a ready-to-use composition for the oxidation dyeing of **keratinous** fibers, in particular human **keratinous** fibers, and more particularly **hair**, comprising at least one oxidation dye, at least one associative polymer, at least one pearling agent chosen from the group. . .

SUMM . . . of the present invention, the expression ready-to-use composition is understood to mean any composition intended to be applied immediately to **keratinous** fibers; it can therefore be stored as it is before use or result from mixing two or more compositions immediately. . .

SUMM [0019] The invention also relates to a method for the oxidation dyeing of **keratinous** fibers, in particular human **keratinous** fibers, and more particularly **hair**, consisting in applying to the fibers at least one dye composition containing, in an appropriate medium for dyeing, at least. . .

SUMM . . . with the present invention may be chosen from all those already known per se to improve the cosmetic properties of **hair**, namely in particular those described in Patent Application EP-A-337 354 and in French patents FR-2,270,846, 2,383,660, 2,598,611, 2,470,596 and 2,519,863.

SUMM [0399] The pH of the ready-to-use composition applied to the **keratinous** fibers [composition resulting from mixing the dye composition and the oxidizing composition] is generally between the values 3 and 12. . . the desired value by means of acidifying or alkalizing agents well known in the state of the art for dyeing **keratinous** fibers.

SUMM . . . prepared at the time of use (ready-to-use composition) from the dye and oxidizing compositions described above, to dry or wet **keratinous** fibers, and in allowing it to act for a leave-in time preferably varying from 1 to 60 minutes approximately, and. . .

DETD [0414] The mixture obtained was applied to locks of natural **hair** which was 90% white and left in for 30 minutes.

DETD [0416] The **hair** was dyed in a coppery red light chestnut brown shade.

DETD [0420] The mixture obtained was applied to locks of natural **hair** which was 90% white and left in for 30 minutes. The locks were then rinsed with water, they were washed. . .

DETD [0421] The **hair** was dyed in a coppery red light chestnut brown shade.

CLM What is claimed is:

1. A composition for the oxidation dyeing of **keratinous** fibers, in particular human **keratinous** fibers, and more particularly **hair**, comprising, in an appropriate medium for dyeing, at least one oxidation dye and at least one associative polymer, and which. . .

30. A method for the oxidation dyeing of **keratinous** fibers, in particular human **keratinous** fibers, and more particularly **hair**, consisting in applying to the fibers at least one dye composition comprising, in an appropriate medium for dyeing, at least.

. . . the ready-to-use composition, freshly prepared at the time of use from the dye and oxidizing compositions, to dry or wet **keratinous** fibers, in allowing it to act for a leave-in time varying from 1 to 60 minutes approximately, and preferably from. . .

IT **Hair preparations**

(dyes, oxidative; oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT 435327-16-5P

(oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

IT 435327-16-5P

(oxidation dyeing composition for keratinous fibers comprising associative polymer and pearling agent)

RN 435327-16-5 USPATFULL

CN Ethanol, 2-(dimethylamino)-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane], compd. with 1-bromooctadecane (9CI) (CA INDEX NAME)

CM 1

CRN 112-89-0

CMF C18 H37 Br

Me-(CH<sub>2</sub>)<sub>17</sub>-Br

CM 2

CRN 435327-15-4

CMF (C15 H22 N2 O2 . C4 H11 N O . (C2 H4 O)<sub>n</sub> H2 O)<sub>x</sub>

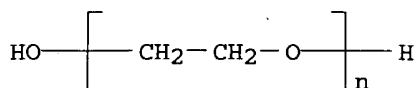
CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

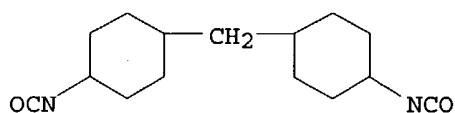
CCI PMS



CM 4

CRN 5124-30-1

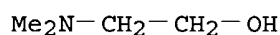
CMF C15 H22 N2 O2



CM 5

CRN 108-01-0

CMF C4 H11 N O



L68 ANSWER 3 OF 3 USPATFULL on STN

AN 2003:180252 USPATFULL

TI Novel cationic associative polyurethanes and their use as thickeners

IN Mougin, Nathalie, Paris, FRANCE

Cottard, Francois, Levallois-Perret, FRANCE

de la Mettrie, Roland, Le Vesinet, FRANCE

Lion, Bertrand, Luzarches, FRANCE

Maury, Elise, Paris, FRANCE

PI US 2003124079 A1 20030703

AI US 2001-904516 A1 20010716 (9)

PRAI FR 2000-9609 20000721

DT Utility

FS APPLICATION

LREP PILLSBURY WINTHROP LLP, 1600 TYSONS BOULEVARD, MCLEAN, VA, 22102

CLMN Number of Claims: 13

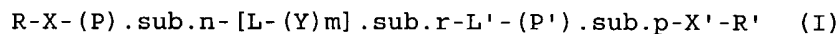
ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 503

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to novel amphiphilic cationic associative polyurethanes of formula (I):



in which:

R and R', which are identical or different, represent a hydrophobic group or a hydrogen atom;

X and X', which are identical or different, represent a group comprising an amine functional group which may or may not carry a hydrophobic group or the L>> group;

L, L' and L>>, which are identical or different, represent a group derived from a diisocyanate;

P and P', which are identical or different, represent a group comprising an amine functional group which may or may not carry a hydrophobic group;

Y represents a hydrophilic group;

r is an integer between 1 and 100, preferably between 1 and 50 and in



particular between 1 and 25,

n, m and p have values, each independently of the others, between 0 and 1000;

the molecule comprising at least one protonated or quaternized amine functional group and at least one hydrophobic group.

The invention also relates to the use of these polyurethanes as thickeners or gelling agents in cosmetic compositions for topical application.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM [0081] Given its good thickening properties and its excellent affinity for **keratinous** substances, this type of amphiphilic cationic associative polymer according to the invention is particularly suitable for the preparation of compositions. . . .

SUMM [0082] In particular, the polymers according to the invention can be used in **hair** compositions, in compositions for caring for the skin, in compositions for caring for the nails, in scenting compositions and in. . . .

INCL INCLM: 424/070.110  
INCLS: 528/084.000

NCL NCLM: 424/070.110  
NCLS: 528/084.000

IT 77-78-1DP, Dimethyl sulfate, reaction products with methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene glycol copolymer-stearyl alc. adducts 108-01-0DP, N,N-Dimethylethanolamine, reaction products with methylenebiscyclohexyl diisocyanate-polyethylene glycol copolymer and stearyl chloride 112-76-5DP, Stearyl chloride, reaction products with methylenebiscyclohexyl diisocyanate-polyethylene glycol copolymer-dimethylethanolamine adducts 112-89-0DP, Stearyl bromide, reaction products with methylenebiscyclohexyl diisocyanate-polyethylene glycol copolymer-dimethylethanolamine adducts 112-92-5DP, Stearyl alcohol, reaction products with methylenebiscyclohexyl diisocyanate-N-methylethanolamine-polyethylene glycol copolymer and di-Me sulfate 144441-11-2DP, reaction products with N,N-dimethylethanolamine and stearyl chloride **389885-98-7DP**, reaction products with stearyl alc. and di-Me sulfate  
(associative cationic polyurethanes for thickeners and gelling agents for cosmetics)

IT **389885-98-7DP**, reaction products with stearyl alc. and di-Me sulfate  
(associative cationic polyurethanes for thickeners and gelling agents for cosmetics)

RN 389885-98-7 USPATFULL

CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[isocyanatocyclohexane], block (9CI) (CA INDEX NAME)

CM 1

CRN 28605-81-4

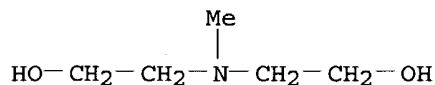
CMF C15 H22 N2 O2

CCI IDS

CDES 8:ID

CM 3

CRN 105-59-9  
CMF C5 H13 N O2



L69 ANSWER 3 OF 4 USPATFULL on STN

AN 81:60150 USPATFULL

TI Urethane rheology modifiers and compositions containing same

IN Schimmel, Karl F., Verona, PA, United States

Seiner, Jerome A., Pittsburgh, PA, United States

Dowbenko, Rostyslaw, Gibsonia, PA, United States

Christenson, Roger M., Gibsonia, PA, United States

PA PPG Industries, Inc., Pittsburgh, PA, United States (U.S. corporation)

PI US 4298511 19811103

AI US 1980-174479 19800801 (6)

DT Utility

FS Granted

EXNAM Primary Examiner: Welsh, Maurice J.

LREP Wilson, Charles R.

CLMN Number of Claims: 44

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 623

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Rheology modifiers useful in water-and organic solvent-based compositions are derived from the reaction of polyalkylene oxide, polyfunctional material, diisocyanate and water. The modifiers are characterized by having a branched structure and containing substantially no terminal hydrophobic groups.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 80438-09-1  
(rheol. modifiers, for coating materials)

RN 80438-09-1 USPATFULL

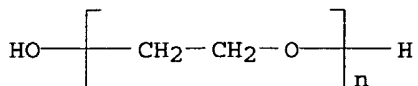
CN Ethanol, 2,2'-iminobis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

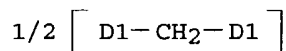
CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



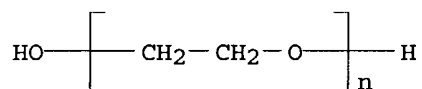
D1-NCO

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

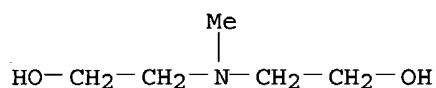
CCI PMS



CM 3

CRN 105-59-9

CMF C5 H13 N O2



=&gt; s 165 not 168

L69 4 L65 NOT L68

=&gt; d bib abs hitstr tot

L69 ANSWER 1 OF 4 USPATFULL on STN

AN 2002:114374 USPATFULL

TI Thin walled elastic polyurethane articles

IN Alsaffar, Eman, Bury St. Edmunds, UNITED KINGDOM

PA LRC Products Limited, Broxbourne, UNITED KINGDOM (non-U.S. corporation)

PI US 6389602 B1 20020521

AI US 1999-265573 19990310 (9)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Pyon, Harold; Assistant Examiner: Nolan, Sandra M.

LREP Stevens, Davis, Miller &amp; Mosher, L.L.P.

CLMN Number of Claims: 18

ECL Exemplary Claim: 1

DRWN 2 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 502

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Soft, thin-walled elastic articles such as condoms and gloves are made of films of a linear polyurethane which has been so made as to have physical properties close to those of a similar film of natural rubber. The polyurethane is made from poly(propylene glycol) polyols with no more than 0.01 milliequivalents unsaturation per gram, and has a molecular weight Mn of 90 to 150 kg/mol, a ratio Mw:Mn of 1.2 to 2.2, and a ratio of hard:soft segments of 20:80 to 40:60. The film has an S100 of less than 2.0 MPa, an elongation at break of at least 800%, and a tensile strength of above 15 MPa.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 213915-66-3P, Ethanolamine-4,4'-methylenebis(cyclohexyl isocyanate)-polypropylene glycol copolymer  
(polyurethanes for thin-walled elastic articles)

RN 213915-66-3 USPATFULL

CN Ethanol, 2-amino-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

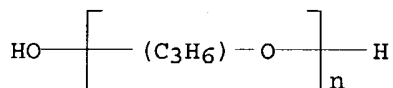
CM 1

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

CCI IDS, PMS

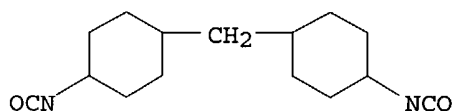
CDES 8:ID



CM 2

CRN 5124-30-1

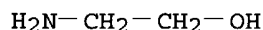
CMF C15 H22 N2 O2



CM 3

CRN 141-43-5

CMF C2 H7 N O



L69 ANSWER 2 OF 4 USPATFULL on STN

AN 88:62385 USPATFULL

TI Process for the production of polyurethane-coated textile surfaces, polyurethane-coated textile surfaces and their use in the production of breathable and waterproof clothing

IN Dahmen, Kurt, Monchen-Gladbach, Germany, Federal Republic of  
Stockhausen, Dolf, Krefeld, Germany, Federal Republic of

PA Stukenbrock, Karl-Heinz, Nettetal, Germany, Federal Republic of  
 Chemische Fabrik Stockhausen GmbH, Krefeld, Germany, Federal Republic of  
 (non-U.S. corporation)  
 PI US 4774131 19880927  
 AI US 1987-105944 19871002 (7)  
 PRAI DE 1986-3633874 19861004  
 DT Utility  
 FS Granted  
 EXNAM Primary Examiner: Bell, Janyce A.  
 LREP Sprung Horn Kramer & Woods  
 CLMN Number of Claims: 15  
 ECL Exemplary Claim: 1,15  
 DRWN No Drawings  
 LN.CNT 350

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for the production of  
 textiles that are coated with polyurethane, in which the material that  
 is to be coated is coated with two oppositely charged aqueous ionic  
 dispersions of polyurethanes that contain no free isocyanate groups and  
 contain covalently bonded, solubility-enhancing ionic groups, dried and  
 optionally waterproofed. Cationic and anionic polyurethane dispersions  
 are preferred in a weight ratio of 1:1, and are applied to the textile  
 material in a two-coat technique, wet-on-wet. In addition, the invention  
 relates to textile material produced in this way, with improved  
 waterproof qualities and the use of such textiles for the production of  
 breathable, water- and wind resistant clothing, industrial textiles, and  
 leather substitutes, all of which are permeable to water vapour.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 53488-86-1

(waterproofing finishes, moisture-permeable, for textiles)

RN 53488-86-1 USPATFULL

CN Ethanol, 2,2'-(methylinino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-  
 isocyanatocyclohexane] (9CI) (CA INDEX NAME)

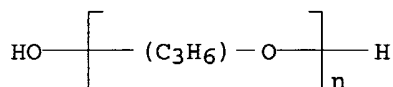
CM 1

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

CCI IDS, PMS

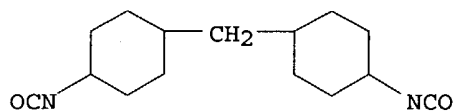
CDES 8:ID



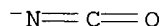
CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



L2 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 71000-82-3 REGISTRY  
 CN **Isocyanate (9CI)** (CA INDEX NAME)  
 OTHER NAMES:  
 CN Isocyanate ion(1-)  
 PR 661-20-1  
 MF C N O  
 LC STN Files: ANABSTR, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMLIST, CSCHEM, EMBASE, GMELIN\*, NIOSHTIC, PDLCOM\*, TOXCENTER, USPATFULL, VTB  
 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Conference; Journal; Patent; Report  
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); USES (Uses)  
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
 RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); PRP (Properties); RACT (Reactant or reagent)



58 REFERENCES IN FILE CA (1907 TO DATE)  
 16 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 58 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 661-20-1 REGISTRY  
 CN Cyanate (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Cyanic acid, ion(1-) (8CI)  
 OTHER NAMES:  
 CN Cyanate ion  
 CN Cyanate ion(1-)  
 CN Cyanate(1-)  
 CN **Isocyanate**  
 CN Isocyanate ion(1-)  
 CN Isocyanic acid, ion(1-)  
 AR 71000-82-3  
 FS 3D CONCORD  
 DR 16610-28-9  
 MF C N O  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CEN, CIN, CSNB, DETHERM\*, EMBASE, GMELIN\*, IFICDB, IFIPAT, IFIUDE, NIOSHTIC, PIRA, PROMT, TOXCENTER, TULSA, USPATFULL, VTB  
 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Conference; Dissertation; Journal; Patent;

## URETHANE RHEOLOGY MODIFIERS AND COMPOSITIONS CONTAINING SAME

### BACKGROUND OF THE INVENTION

This invention relates to rheology modifiers. More particularly, the invention relates to urethane rheology modifiers especially useful in water and organic solvent-based compositions.

Additives have long been used in coating compositions for various purposes. Thus, viscosity control agents, surfactants, sag-control agents, anti-foaming agents and other materials are added to coating compositions in minor amounts for their respective functions. Rheology modifiers are also added to such compositions not only for increasing the viscosity of the coating composition but to maintain the viscosity at desired levels under varying process conditions and end-use situations. Secondary effects obtained from the rheology modifiers include protective colloidal action, improvement in pigment suspension, leveling and flow. Some of these properties are also desired in similar type compositions, for instance textile treating compositions, cosmetics, paper compositions, well drilling, firefighting foams, detergents, pharmaceuticals, agricultural formulations, and emulsions of all kinds. It can be seen rheology modifiers are used in a variety of compositions.

Many well-known rheology modifiers are used with varying degrees of success. Thus, natural products such as the alginates, casein, and gum tragacanth and modified natural products such as methyl cellulose and hydroxyethyl cellulose are useful rheology modifiers. Synthetic rheology modifiers have also been used. These materials include the carboxyvinyl ether copolymers, acrylic polymers and maleic anhydride/styrene copolymers. However, the known rheology modifiers have various deficiencies. Thus, the natural rheology modifiers are susceptible to biological attack. Synthetic rheology modifiers are not subject to such attack yet most of them do suffer from having less than desirable thickening qualities over a wide range of end uses and/or film forming concentrations.

There is accordingly a need for rheology modifiers which are biologically resistant as well as function over a wide range of uses and temperatures. Ideally, such rheology modifiers can be used in water-base as well as organic solvent based systems and can be used with a wide range of different film forming resins. An added benefit would be if the rheology modifiers imparted many of the secondary properties described above.

As used herein, all percents and ratios are by weight unless otherwise stated.

### SUMMARY OF THE INVENTION

Disclosed herein are rheology modifiers derived from the reaction product of from about 8 to about 14 moles of a polyalkylene oxide, from about 0.5 to about 5 moles of a polyfunctional material, from about 9 to about 90 moles of a diisocyanate and from about 3 to about 70 moles water. The rheology modifiers are substantially free of isocyanate groups and have a branched structure.

The aforescribed rheology modifiers are useful in water-based as well as organic solvent-based compositions. The rheology modifiers are especially useful in coating compositions.

## DETAILED DESCRIPTION OF THE INVENTION

The following paragraphs describe the rheology modifiers, their method of making and various applications thereof.

The rheology modifiers useful herein are derived from the reaction of polyalkylene oxides, polyfunctional materials, diisocyanates and water. The modifiers have a branched chain structure and are substantially free of isocyanate groups. The rheology modifiers are further characterized by having substantially no terminal hydrophobic groups.

Polyalkylene oxides used in the reaction include the polyethylene oxide diols, polypropylene oxide diols, polybutylene oxide diols and polyisobutylene oxide diols. These materials have a molecular weight of from about 2,000 to about 20,000, preferably from about 4000 to about 12,000. The polyethylene oxide is a preferred polyalkylene oxide. The reaction mixture consists essentially of from about 8 moles to about 14 moles, preferably, from about 9 moles to about 12 moles of the polyalkylene oxide.

The polyfunctional material has either at least 3 active hydrogens and is capable of reacting with an isocyanate or is a polyisocyanate with at least 3 isocyanate groups. Classes of materials useful as the polyfunctional material include polyols, amines, amine alcohols, thiols and polyisocyanates. The preferred polyfunctional material is a polyol having a hydroxyl functionality of at least three. Examples of such materials include the polyalkyols, e.g., trimethylolpropane, trimethylethanolamine and pentaerythritol; the polyhydroxyalkanes, e.g., glycerol, erythritol, sorbitol, and manitol; polyhydric alcohol ethers such as those derived from the aforementioned alcohols and alkylene oxides; cycloaliphatic polyhydric compounds, e.g., trihydroxyl cyclohexanes; and aromatic compounds such as trihydroxybenzene. Preferred polyols are the trifunctional alcohols, especially the trimethylolpropane. Additional examples of polyfunctional materials include diethylenetriamine, triethylenetetramine, diethanolamine, triethanolamine, triisopropanolamine, trimercaptomethylpropane, triphenyl methane-4,4',4''-trisocyanate; 1,3,5-trisocyanate benzene; 2,4,6-trisocyanate toluene; 4,4'-diphenyldimethyl methane-2,2'-5,5'-tetraisocyanate; and hexamethylene diisocyanate trimer, such as Mobay Chem. Co's Desmodur N. The level of polyfunctional material ranges from about 0.5 moles to about 5 moles, preferably from about 1 mole to about 3 moles of the reaction mixture.

A third component used in the reaction mixture is a diisocyanate at a level of from about 9 moles to about 90 moles, preferably from about 20 moles to about 35 moles. Several different hydrocarbon or substituted hydrocarbon diisocyanates are useful including the aliphatic, cycloaliphatic and aromatic diisocyanates either alone or in admixture. Generally available diisocyanates have the formula  $\text{OCNRRNCO}$  where R is arylene, e.g., phenylene and diphenylene; alkylarylene, e.g., dimethylbiphenylene, methylenebisphenyl and dimethylmethylenebisphenylene; alkylene, e.g., methylene, ethylene, tetramethylene, hexamethylene, a 36 methylene species, and trimethylhexylene; and alicyclic, e.g., isophorone and methylcyclohexylene. Still other useful diisocyanates include those of the above formula where R is a hydrocarbon group containing ester or ether linkages. Specific examples of suitable diisocyanates

include 1,4-tetramethylene diisocyanate; 1,6-hexamethylene diisocyanate; 2,2,4-trimethyl-1,6-diisocyanato hexane; 1,10-decamethylene diisocyanate; 1,4-cyclohexylene diisocyanate; 4,4'-methylene bis(isocyanato cyclohexane); p-phenylene diisocyanate; 2,6-toluene diisocyanate; 2,4-toluene diisocyanate; xylene diisocyanate; isophorone diisocyanate; bis para-isocyanato cyclohexylmethane; 4,4'-biphenylene diisocyanate; 4,4'-methylene diphenyl isocyanate; 1,5-naphthalene diisocyanate; and 1,5-tetrahydronaphthalene diisocyanate. Preferred are the toluene diisocyanate and the cycloaliphatic diisocyanates, especially isophorone diisocyanate and bis para-isocyanato cyclohexylmethane.

A fourth component used in the reaction mixture is water. The water is used at a level of from about 3 moles to about 70 moles. Preferably from about 5 moles to about 38 moles and most preferably from about 8 moles to about 25 moles of the water is used. It should be understood that oftentimes the components other than the diisocyanate used in the reaction as well as any solvent medium used will contain water, usually in trace amounts. It is necessary the water brought into the reaction mixture by these sources be accounted for and adjusted either by partially drying the reaction mixture or adding more water so as to come within the proper level of water as above indicated. The level of water is found critical to forming a rheology modifier having the desired viscosity modifying characteristics. It is theorized the water is responsible for the formation of urea and other groups within the molecule.

Components in addition to those discussed above can be included in the reaction mixture provided they do not interfere with the reaction or materially affect the properties of the resultant rheology modifier. Thus, components such as monofunctional materials, non polyalkylene oxide polyols and lower molecular weight polyols can be included in the reaction mixture at low levels, generally less than about 10% by weight. Preferably, however, the rheology modifiers of this invention are derived solely from the four components discussed in the paragraphs immediately above.

A convenient method of making the rheology modifier is by blending all the components together in the presence of a solvent medium and heating to a temperature ranging from about 100° C. to about 130° C. Alternatively, the components can be individually added in any order and reacted at the aforementioned elevated temperature. The reaction is allowed to proceed until substantially no free isocyanate groups are present. The absence of free isocyanate groups signals the end of the reaction. The aforementioned reactant ratios assure there will be no free isocyanate groups in the reaction mixture provided the reaction is allowed to proceed to completion. Any of several inert solvents can be used as the solvent medium, the only criteria being that all the components be either soluble or dispersible therein. Thus, benzene, toluene, xylene, ethyl acetate, butyl acetate and the dialkyl ethers of ethylene glycol and diethylene glycol can be used. Preferred, however, for use as the solvent medium is an organic solvent which is compatible with a water-based or organic solvent-based coating composition. Compatible solvents are preferred since it is a desired objective that the rheology modifier as made be added directly to a coating composition without a need to remove any incompatible solvent medium used in its preparation. This objective is particularly difficult to meet with water-based coating compositions. Solvents found to be especially compatible

with the coating compositions, including the water-based compositions, include 1-methyl-2-pyrrolidinone, dimethylformamide, dimethyl acetamide, dimethyl sulfide, gamma butyrolactone, gamma butyrolactam, dioxane and acetonitrile.

In a preferred method of making the rheology modifiers, a polyhydric material such as ethylene glycol, propylene glycol, or glycerine is added when the mixture described in the preceding paragraph is substantially free of isocyanate groups. This addition reduces the mixture's viscosity thereby making it easier to handle and further ensures there are no terminal hydrophobic groups in the rheology modifier. For maximum ease of handling, the mixture's temperature is about 100° C. to about 130° C. while the polyhydric material is added.

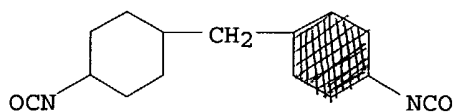
The aforescribed modifiers can be used in water-based compositions as well as organic solvent-based compositions. They are most useful in coating compositions, as below described, especially the water-based latex coating compositions.

Latex coating compositions can be made from many different water-insoluble polymeric film-forming materials which are capable of forming a dispersion in water. Especially useful film-forming polymeric resins are the acrylic resins which are the polymerized ester derivatives of acrylic acid and methacrylic acid. The esters are formed by the reaction of acrylic or methacrylic acid with a suitable alcohol, e.g., methyl alcohol, ethyl alcohol, propyl alcohol and butyl alcohol. Generally speaking, the larger the alcoholic portion of the ester, the softer or more flexible the resultant resin. Monomers such as styrene, vinyl toluene, vinyl chloride and vinylidene chloride can be reacted with the acrylic and methacrylic esters to produce resins having excellent properties. Copolymers of acrylic resins with each other or with other monomers of acrylic or methacrylic acids and their derivatives such as methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, butyl acrylate, butyl methacrylate, acrylamide, and acrylonitrile are useful. Still other polymeric resins include the vinyl resins derived from monomers containing a carbon to carbon double bond. These monomers polymerize by linear addition to form long-chain molecules. The vinyl monomers can have various pendant groups such as chlorine, acetate and aromatic groups. The vinyl resins are commonly derived from monomers such as vinyl chloride, vinylidene chloride, vinyl acetate, styrene, acrylonitrile and mixtures thereof.

The water-insoluble polymeric resins have a particle diameter of less than about 1 micron, preferably from about 0.05 microns to about 0.5 microns and are suspended in water. These compositions are oftentimes referred to as either emulsions or latexes. A typical latex coating composition contains from about 5% to about 70%, preferably from about 20% to about 35% of the aforescribed film-forming polymeric resins and from about 0.1% to about 10%, preferably from about 1% to about 5%, based on the film-forming of polymeric resin, of the rheology modifier.

Other film-forming resins which can be either water-solubilized or dissolved in organic solvents include the epoxy, vinyl, alkyd, polyester, acrylic, aminoplast, phenoplast, cellulose derivatives, amide or urethane resins or mixtures thereof. Copolymers derived from such resins are also useful. These resins are further described in commonly assigned U.S. Ser. No. 166,643, filed July 7, 1980 P. Group 140 Becher et al, "Pigment Disper-





CM 3

CRN 111-42-2

CMF C4 H11 N O2



L69 ANSWER 4 OF 4 USPATFULL on STN

AN 79:29982 USPATFULL

TI Polyurethane latexes from NCO prepolymers chain extended with polyepoxides, polyanhydrides or polyaldehydes, and layered products

IN Loewrigkeit, Peter, Wyckoff, NJ, United States

Van Dyk, Kenneth A., Franklin Lakes, NJ, United States

McGimpsey, Thomas T., Newark, NJ, United States

PA Witco Chemical Corporation, New York, NY, United States (U.S. corporation)

PI US 4160065 19790703

AI US 1976-750476 19761214 (5)

DT Utility

FS Granted

EXNAM Primary Examiner: Tillman, Murray; Assistant Examiner: Koeckert, A. H.

LREP Gazzola, Albert L., Friedman, Morton

CLMN Number of Claims: 27

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 965

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A latex suitable for forming improved water-resistant polyurethane products. The latex is prepared in an aqueous system by reacting an NCO-terminated, quaternized, preferably linear, polyurethane prepolymer with water and chain-extending the resulting polyurethane-urea with a difunctional or polyfunctional reagent containing groups reactive with primary amino groups, such as epoxy groups, anhydrides and aldehydes, thus increasing the molecular weight of said polyurethane-urea. The latex thus formed can be dried into highly water-resistant films, coatings, and the like.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 53488-86-1D, reaction products with di-Me sulfate, water, and diepoxides, anhydrides, or dialdehydes (latexes, for hydrolysis- and solvent-resistant films and laminates)

RN 53488-86-1 USPATFULL

CN Ethanol, 2,2'-(methylimino)bis-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

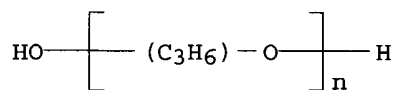
CM 1

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS

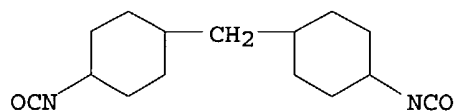
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CM 2

CRN 5124-30-1

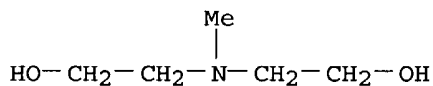
CMF C15 H22 N2 O2



CM 3

CRN 105-59-9

CMF C5 H13 N O2



=&gt; d his

(FILE 'HOME' ENTERED AT 17:07:12 ON 22 JUN 2004)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 17:07:25 ON 22 JUN 2004

L1 1 S US20030124079/PN OR FR2000-9609/AP, PRN  
SEL RN

FILE 'REGISTRY' ENTERED AT 17:07:52 ON 22 JUN 2004

L2 7 S E1-E7  
E C15H22N2O2/MF  
L3 138 S E3 AND 46.150.1/RID  
L4 49 S L3 NOT 46.150.18/RID  
L5 32 S L4 AND 2/NR  
L6 4 S L5 AND DIISOCYAN?  
L7 28 S L5 NOT L6  
L8 3 S L7 AND ISOCYAN?  
L9 17 S L4 NOT L5  
L10 1 S L9 AND IDS/CI  
L11 8 S L6, L8, L10  
SEL RN  
L12 4388 S E1-E8/CRN  
L13 890 S L12 AND C2H4O  
L14 36 S L13 AND C5H13NO2  
L15 26 S L14 NOT 46.150.18/RID  
L16 22 S L15 NOT SI/ELS  
L17 17 S L16 NOT C3H6O  
L18 1 S L17 AND 3/NC

L19 14 S L13 AND C4H11NO2  
L20 1 S L19 AND 3/NC  
L21 3 S L13 AND (C18H38O OR C18H37CL OR C18H37BR OR C18H37I OR C18H37  
L22 2 S L21 NOT C6H14O3  
L23 4 S L18,L20,L22  
L24 STR  
L25 1 S L24 SAM SUB=L13  
L26 909 S L12 AND C3H6O  
L27 1431 S L13,L26  
L28 7 S L24 SAM SUB=L27  
L29 270 S L24 FUL SUB=L27  
SAV L29 SHAH904/A  
L30 28 S L29 AND 3/NC  
L31 21 S L30 NOT (SI/ELS OR 46.150.18/RID)  
SEL RN 2 3 5 13 14 15 17 18 19 20 21  
L32 11 S E9-E19  
L33 1 S L29 AND (C18H38O OR C18H37CL OR C18H37BR OR C18H37I OR C18H37  
L34 STR  
L35 0 S L34 CSS SAM SUB=L29  
L36 STR L34  
L37 0 S L36 CSS SAM SUB=L29  
L38 5 S L36 CSS FUL SUB=L29  
SAV L38 SHAH904A/A  
L39 1 S L38 AND 4/NC  
L40 13 S L23,L32,L33,L39  
SAV L40 SHAH904B/A  
E OCTADECANE, 1-BROMO/CN  
L41 1 S E4  
E OCTADECANE, 1-CHLORO/CN  
L42 1 S E4  
E OCTADECANE, 1-FLUORO/CN  
L43 1 S E4  
E OCTADECANE, 1-IODO/CN  
L44 1 S E4  
E 1-OCTADECANOL/CN  
L45 1 S E3  
L46 5 S L41-L45  
L47 1 S L2 AND S/ELS  
L48 1 S L2 AND C4H11NO

FILE 'HCAPLUS' ENTERED AT 17:33:16 ON 22 JUN 2004

L49 10 S L40  
L50 1218 S L11  
L51 10 S L50 AND L46  
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L56 0 S L51 AND L53  
L57 25 S L51-L53  
L58 6 S L57 AND HAIR  
L59 3 S L49 AND HAIR  
L60 4 S L49 AND COSMETIC#/SC,SX,CW,BI  
L61 4 S L59,L60  
L62 6 S L49 NOT L61  
L63 1 S L61 AND L46,L48,L47  
L64 4 S L61,L63

FILE 'REGISTRY' ENTERED AT 17:55:52 ON 22 JUN 2004

FILE 'HCAPLUS' ENTERED AT 17:56:14 ON 22 JUN 2004

FILE 'USPATFULL, USPAT2' ENTERED AT 17:57:24 ON 22 JUN 2004

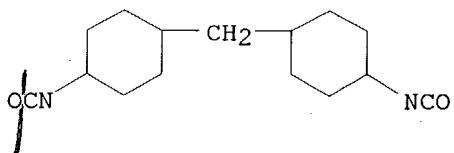
L65 7 S L40  
L66 1 S L65 AND 424/INCLM,INCLS,NCLM,NCLS  
L67 3 S L65 AND (HAIR? OR KERATIN?)/BI,CT  
L68 3 S L66,L67

FILE 'USPATFULL, USPAT2' ENTERED AT 17:59:12 ON 22 JUN 2004

L69 4 S L65 NOT L68

=>

L6 ANSWER 18 OF 19 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 5124-30-1 REGISTRY  
 CN Cyclohexane, 1,1'-methylenebis[4-isocyanato- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Isocyanic acid, methylenedi-1,4-cyclohexylene ester (6CI)  
 CN Isocyanic acid, methylenedi-4,1-cyclohexylene ester (7CI, 8CI)  
 OTHER NAMES:  
 CN 1,1-Methylene bis(4-isocyanatocyclohexane)  
 CN 4,4'-Diisocyanatodicyclohexylmethane  
 CN 4,4'-Methylenebis(cyclohexyl isocyanate)  
 CN **4,4'-Methylenedicyclohexyl diisocyanate**  
 CN Bis(4-isocyanatocyclohexyl)methane  
 CN Dicyclohexylmethane 4,4'-diisocyanate  
 CN Hydrogenated MDI  
 CN Methylenebis(1,4-cyclohexylene) diisocyanate  
 CN Methylenebis(4-cyclohexyl isocyanate)  
 CN Methylenebis(4-isocyanatocyclohexane)  
 CN Methylenedi-1,4-cyclohexylene isocyanate  
 CN Methylenedi-4,1-cyclohexylene isocyanate  
 CN Methylenedi-4-cyclohexylene diisocyanate  
 FS 3D CONCORD  
 DR 123773-48-8, 103072-21-5, 68966-63-2, 73156-15-7, 88504-76-1,  
 107314-16-9,  
 190601-97-9, 201536-77-8, 280144-17-4  
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 CI COM  
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 CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM,  
 CSNB, DETHERM\*, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE,  
 MSDS-OHS, NIOSHTIC, PROMT, RTECS\*, TOXCENTER, ULIDAT, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)  
 DT.CA Caplus document type: Conference; Journal; Patent; Report  
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
 OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP  
 (Properties);  
 RACT (Reactant or reagent); USES (Uses); NORL (No role in record)  
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological  
 study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP  
 (Properties); RACT (Reactant or reagent); USES (Uses)  
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
 study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP  
 (Properties); RACT (Reactant or reagent); USES (Uses)  
 RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological  
 study); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
 (Reactant or reagent); USES (Uses)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1139 REFERENCES IN FILE CA (1907 TO DATE)  
763 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1147 REFERENCES IN FILE CACUS (1907 TO DATE)  
12 REFERENCES IN FILE CACUS (PRIOR TO 1967)

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 80438-09-1 REGISTRY

CN Ethanol, 2,2'-iminobis-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cyclohexane, 1,1'-methylenebis[4-isocyanato-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-iminobis[ethanol] (9CI)

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 2,2'-iminobis[ethanol] and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI)

MF (C15 H22 N2 O2 . C4 H11 N O2 . (C2 H4 O)n H2 O)x

CI PMS

PCT Polyamine, Polyether, Polyurethane, Polyurethane formed

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

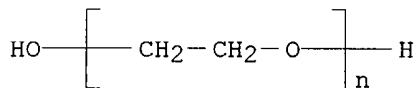
RL.P Roles from patents: USES (Uses)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

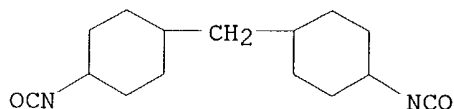
CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 3

CRN 111-42-2

CMF C4 H11 N O2



1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)